DISCOVERING OPPORTUNITIES: EVALUATING SUPERVISED AGRICULTURAL EXPERIENCE'S ROLE IN THE AGRICULTURAL EDUCATION PROGRAM- A DELPHI STUDY

A Thesis

by

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ABSTRACT

Supervised Agricultural Experience (SAE) is one of the founding pillars of agricultural education. As agricultural education has changed and adapted, Supervised Agricultural Experiences have grown in scope and diversity. Exploratory SAEs were created to provide students with new opportunities to engage in experiential learning, hands-on experiences, and put their skills and knowledge obtained in the classroom into practice. Nevertheless, limited research had been conducted to determine what the role and value of exploratory SAEs may hold for modern agricultural education. Furthermore, limited research has been completed on the implementation of this unique SAE category.

The purpose of this study was to address some fundamental questions regarding exploratory SAEs such as the definition, example projects, opportunities and barriers for implementing exploratory SAEs, parameters that differentiated exploratory SAEs from other SAE categories, and whether exploratory SAEs, as they currently exist, are degree and/or award worthy in the FFA component of the agricultural education model. Utilizing the Delphi method to gather responses and collect data, the researcher was able to interpret results from various perspectives and attitudes regarding exploratory SAEs. 15 individuals were selected from the field of agricultural education who demonstrated exemplary acumen and expertise in the area of SAEs. Throughout three rounds of data collection, a response rate of 93% (N=15, *n*=14) was maintained from the nationally distributed SAE panelists. The SAE panelists completed three online questionnaires utilizing the Qualtrics™ system, first responding to open ended questions and then

collapsing and organizing these responses. The next two questionnaires used a Likert-type scale to determine panelists' level of agreement with their responses. The scale used ranged from 1=Strongly Disagree to 4=Strongly Agree with consensus set at a 3.2 or 80%.

We found that experts were in agreement on items such as the definition, examples, opportunities and parameters that differentiate exploratory SAEs from the other categories. However, the SAE experts could not reach consensus on items such as barriers to implement exploratory SAEs or whether the current exploratory SAE's are degree or award worthy. Findings show that more research and clarity is needed to learn more about exploratory SAEs, beyond this first step of research.

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Completing an advanced degree is never an effort by a single individual. Rather, it takes a collective effort of committed individuals' time, patience, and understanding to foster a student through a graduate program. Although graduate school has had its fair share of trials and tribulations, I feel very blessed to have worked with some exceptional people. Therefore, it is only fitting to share my appreciation and gratitude to a few of those people.

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through you. In the words of one of my icons John Wayne, “No moral man can have peace of mind if he leaves undone knowing what he should have done.” Friends, let us see what we can get done.

TABLE OF CONTENTS

Page

ABSTRACT ii

ACKNOWLEDGEMENTS iv

TABLE OF CONTENTS ix

LIST OF FIGURES xii

LIST OF TABLES xiii

CHAPTER I INTRODUCTION 1

Purposes and Objectives 2
Definition of Terms 3
Limitations 4
Assumptions 5
Significance of the Problem 5

CHAPTER II LITERATURE REVIEW 7

Introduction 7
Agricultural Education 7
Supervised Agricultural Experience 9
Exploratory SAE 13
Summary of Literature Review 16

CHAPTER III METHODOLOGY 17

Introduction 17
Design of Research Study 17
Population and Sample 18
Instrumentation 20
Data Collection 22
Data Analysis 23

CHAPTER IV RESULTS 24

Introduction 24
Demographic Data 25
Objective 1: Define Exploratory SAE 28

Round One....28
Round Two....29
Round Three....30
Objective 2: Describe Exemplars of Exploratory SAE....32
Round One....32
Round Two....34
Round Three....36
Objective 3: Identify Parameters that Differentiate Exploratory SAE Projects from other SAE Categories....38
Round One....38
Round Two....40
Round Three....41
Objective 4: Identify Opportunities of the Implementation of Exploratory SAE Projects....43
Round One....43
Round Two....44
Round Three....46
Objective 5: Identify Barriers of the Implementation of Exploratory SAE Projects....47
Round One....47
Round Two....49
Round Three....51
Objective 6: Determine Whether Exploratory SAEs are Degree and/or Award Worthy Bases on the Current State of the Category Based on the National FFA Parameters....52
Round One....52
Round Two....55
Round Three....57
Summary....59

CHAPTER V SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS....60

Introduction....60
Purpose and Objective....60
Summary of Methodology....61
Summary of Findings....64
Demographic Data....64
Objective 1: Define Exploratory SAE....65
Conclusions....65
Recommendations....66
Objective 2: Describe Exemplars of Exploratory SAE....67
Conclusions....67
Recommendations....68

Objective 3: Identify Parameters that Differentiate Exploratory SAE Projects from other SAE Categories 69
Conclusions 69
Recommendations 71
Objective 4: Identify Opportunities of the Implementation of Exploratory SAE Projects 72
Conclusions 72
Recommendations 73
Objective 5: Identify Barriers of the Implementation of Exploratory SAE Projects 74
Conclusions 74
Recommendations 75
Objective 6: Determine Whether Exploratory SAEs are Degree and/or Award Worthy Bases on the Current State of the Category Based on the National FFA Parameters 76
Conclusions 76
Recommendations 77
Recommendations for Future Research 77

REFERENCES 79

APPENDIX A 86

APPENDIX B 91

APPENDIX C 103

APPENDIX D 111

APPENDIX E 114

APPENDIX F 119

LIST OF FIGURES

Page

Figure 1 Agricultural Education Three Circle Model 9

Figure 2 SAE Program Types and Settings 12

Figure 3 A Conceptual Model Representing Exploratory SAE's Role in a Total SAE Program..... 15

LIST OF TABLES

Page

Table 1 Demographic Variables. SAE Expert Panel Characteristics 26

Table 2 Demographic Variables. SAE Expert Panel Characteristics-Familiarity w/ Explore SAE.com 27

Table 3 Demographic Variables. SAE Expert Panel Characteristics Sum of Ranks 28

Table 4 Round 1 Responses to Exploratory SAE Definitions 29

Table 5 Round 2 Exploratory SAE Definition Statements and Level of Agreement 30

Table 6 Round 3 Exploratory SAE Definition Statements and Level of Agreement 31

Table 7 Round 1 Responses to the Five Best Examples of Exploratory SAEs ... 32

Table 8 Round 2 Responses to the Five Best Examples of Exploratory SAEs ... 34

Table 9 Round 3 Responses to the Five Best Examples of Exploratory SAEs ... 37

Table 10 Round 1 Responses to Parameters that Differentiate Exploratory SAEs from other SAE Categories 39

Table 11 Round 2 Responses to Parameters that Differentiate Exploratory SAEs from other SAE Categories 40

Table 12 Round 3 Responses to Parameters that Differentiate Exploratory SAEs from other SAE Categories 42

Table 13 Round 1 Responses to Opportunities of Implementing Exploratory SAEs into Local Agricultural Education Programs 44

Table 14 Round 2 Responses to Opportunities for Implementing Exploratory into SAEs Local Agricultural Education Programs and Level of Agreement 45

Table 15 Round 3 Responses to Opportunities for Implementing Exploratory SAEs into Local Agricultural Education Programs and Level of Agreement 47

Table 16 Round 1 Responses to Barriers that may Limit Implementation of Exploratory SAEs 48

Table 17 Round 2 Responses to Potential Barriers of Implementing Exploratory SAEs 50

Table 18 Round 3 Responses to Potential Barriers of Implementing Exploratory SAEs 51

Table 19 Round 1 Responses to "Yes, Exploratory SAEs as they exist today are award and/or degree worthy 54

Table 20 Round 1 Responses to "No, Exploratory SAEs as they exist today are NOT award and/or degree worthy 54

Table 21 Round 2 Responses to "Yes, Exploratory SAEs as they exist today are award and/or degree worthy and Level of Agreement 56

Table 22 Round 2 Responses to "No, Exploratory SAEs as they exist today are NOT award and/or degree worthy and Level of Agreement 56

Table 23 Round 3 Responses to "Yes, Exploratory SAEs as they exist today are award and/or degree worthy and Level of Agreement 58

Table 24 Round 3 Responses to "No, Exploratory SAEs as they exist today are NOT award and/or degree worthy and Level of Agreement 58

CHAPTER I

INTRODUCTION

Agricultural education is constantly changing and adapting (The Council, 2009). Over the breadth of the profession, agricultural educators acknowledge Supervised Agricultural Experience (SAE) programs are an integral component of the agricultural education model (Croom, 2008). However, a challenging phenomenon exists directly related to the lack of participation in SAE. Lewis, Rayfield, and Moore (2012), determined that only 46.1% of students in the study reported having an SAE. That study asked students from all five FFA regions. The National Council for Agricultural Education (The Council) and other stakeholders continue to support and create various initiatives to develop abstract and non-traditional approaches to SAE projects and implementation (Roberts & Dyer, 2004). However, participation in SAE remains stagnant (Barrick, Hughes & Baker, 1991; Steele, 1997; Wilson & Moore, 2007). Many studies have been conducted to research theoretical value, perceptions, ideas, and outcomes of SAEs (Barrick, 1991; Bird, Martin & Simonsen, 2013; Camp, Clarke & Fallon, 2000; Dyer & Osborne, 1995; Dyer & Osborne, 1996; Dyer & Williams, 1997; Foster & Moore, 1987; Ramsey & Edwards, 2012; Lewis, Rayfield, Moore, 2012; Rayfield & Wilson, 2009; White & Pals, 2004; Wilson & Moore, 2007), however very little research exists regarding the implementation and understanding of new SAE Programs.

One approach to increase participation in SAE programs has been the development of new categories of SAE, including the exploratory SAE category. With national trends in agricultural education pushing toward a new perspective to SAE programs, non-traditional SAEs, and determining the roles SAEs hold in the total agricultural education program, exploratory SAE could provide the opportunity to reinvigorate this strong and fundamental component of the agricultural education model. Opportunities exist to implement exploratory SAEs; however, barriers may include lack of parameters and resources to assist with implementation.

Purposes and Objectives

The exploratory SAE component of the agricultural education model is largely misunderstood (Wilson & Moore, 2007). This study sought to identify the factors, relationships, and potential opportunities and barriers that exist for exploratory SAE to revitalize this struggling component of the SAE program.

The research objectives of this study were as follows:

1. Define exploratory SAE.
2. Describe exemplars of exploratory SAE projects.
3. Identify parameters that differentiate exploratory SAE projects from other SAE categories.
4. Identify opportunities of the implementation of exploratory SAE projects.
5. Identify barriers limiting implementation of exploratory SAE projects.
6. Determine whether exploratory SAEs are degree and/or award worthy given the current state of the category based on National FFA parameters.

Definition of Terms

Supervised Agricultural Experience (SAE)- a practical application of classroom concepts designed to provide "real world" experiences and develop skills in agriculturally related careers (National FFA, 2014).

Supervised Agricultural Experience Program- a series of planned, sequential agricultural activities (SAE projects) of educational value conducted by students outside of class and laboratory instruction for which systematic instruction and supervision are provided by a teacher (Phipps, Osborne, Dyer,& Ball, 2008).

Supervised Agricultural Experience Project- a planned agricultural activity conducted outside of class and laboratory instruction that is supervised by the teacher and which, when combined with other SAE projects, forms an SAE program (Phipps, Osborne, Dyer, & Ball, 2008).

Exploratory SAE- experiencing the "big picture" of agriculture and its many related careers (National FFA, 2014).

FFA- the National FFA Organization, formerly known as the Future Farmers of America, is an agricultural youth organization that provides recognition of agricultural achievements and leadership, career, and learning opportunities for students enrolled in an agricultural science class (National FFA, 2014).

Proficiency Awards- awards who honor FFA members who, through their SAEs, have developed specialized skills that they can apply toward their future career (National FFA, 2014).

Agricultural Education Program- a career and technical education program that teaches agricultural science in a secondary public school that has a chartered FFA (National FFA, 2014).

Agriculture Teacher- an educator who has responsibility for teaching agriculture and natural resources courses/curricula in schools and community colleges (Phipps, Osborne, Dyer, & Ball, 2008).

The Three Circle Model- a model that demonstrates the three components in which agricultural education is delivered: classroom/laboratory instruction (contextual learning), Supervised Agricultural Experience (work-based learning), and student leadership organizations (National FFA Organization, National Young Farmer Educational Association and the National Post-Secondary Agricultural Student Organization) (National FFA, 2014).

Limitations

Much research has been conducted regarding SAE and student participation in this component of the agricultural education model (Dyer & Osborne, 1995; Lewis, Rayfield & Moore, 2012; Retallick 2010; Wilson & Moore, 2007). However, little research exists regarding the opportunities and implementation of exploratory SAEs. Furthermore, a consensus of exploratory SAE does not exist in the literature. Many definitions, ideas, and interpretations exist regarding this area. We selected the most credible and widely adopted concepts to serve as the basic measures of this area; with the understanding we would be exploring and evaluating these concepts. Additionally, data for this study came from a purposively selected sample of individuals the researcher

deemed as experts representing a population. The results can only be interpreted by responses these experts provided. Therefore, the researcher must take special notice and care in this type of research due to the possibility of error in judgement.

Assumptions

For this study, the following assumptions were made and helped guide the direction of the study:

1. Panelists participating in this study answered inquiries honestly and to the best of their ability.
2. Panelists who participated in this study were nationally recognized and acknowledged as experts in the field of SAE.
3. The instrument developed was valid and measures the proper variables within the scope of the study.

Significance of the Problem

The need for this study derived from a revitalization of the SAE component of the agricultural education program. As SAE participation continues to decline, agricultural educators look to new and innovative ways to make SAE a viable portion of the agricultural education program. Exploratory SAEs offer a new approach to SAE participation and supervision. However, several barriers may lead to the decline of SAE participation. Terry and Briers (2010) found that agriculture teachers only spend about three percent of their time on average dedicated to the SAE component of the three circle model. Similarly, Wilson and Moore (2007), identified several barriers such as time, number of students in the program, lack of summer employment, lack of support from

school administration and community, complicated recordkeeping, limited availability of resources, and lack of familiarity with newer SAE categories contribute to the decline in SAE. Coincidentally, one of the newer SAE categories includes exploratory SAE. As a result, having a better understanding of the exploratory SAE category may help alleviate this barrier, and strengthen participation in the SAE program.

CHAPTER II

LITERATURE REVIEW

Introduction

This review of literature was completed in order to provide background and understanding to the development of agricultural education and SAE. Furthermore, the National Research Agenda for agricultural education encourages members of the agricultural education field to focus on "efficient and effective agricultural education programs" (2015). Since SAE is a component of the total agricultural education program (Croom, 2008), this review helped clarify the philosophy and theory behind the SAE component of the agricultural education model. After reviewing the SAE component, the researchers investigated literature that may offer opportunities to discover and investigate prior knowledge of potential factors, relationships, opportunities and barriers that exploratory SAE may offer to the agricultural education program. Since the exploratory SAE category was developed in more recent years and little research has been conducted, it was critical for the researcher to evaluate the literature that currently exists to determine what was credible and useful in this study.

Agricultural Education

The inception of what has developed into modern day agricultural education can be traced back to 1862. Upon signing the Morrill Land Grant Act, President Abraham Lincoln laid the foundation for what would establish education for the children of the working American. Sponsored by Vermont Congressman Justin Morrill, and developed

from the mind of Jonathan Baldwin Turner of Illinois, this highly progressive piece of education legislation provided each state with 30,000 acres of federal land to be sold to public institutions of higher education (Herren & Hillison, 1996). The intent of these public colleges was to instruct the "common man" on agricultural advancements, farming practices and the mechanical arts. While these college and universities thrived, it took over 55 years to translate this concept to the secondary level.

In 1917, the Smith-Hughes National Vocational Act was enacted into public law to promote the teaching of vocational education. This included separate state boards and funding, areas and methods of study, teacher preparation and certification, and professional and student organizations (Moore, 1988). Since 1917, agricultural education has expanded drastically to include all 50 states and three U.S. territories. The growth of the agricultural education programs has come to include nearly 800,000 students and over 7,500 formal programs (National Council for Agricultural Education, 2014). While the program was principally based on developing the next generation of farmers, agricultural education has changed and adapted along with the industry it serves (2014).

Today, the program guides itself on the principles of the three circle model, a model that demonstrates the three components in which agricultural education is delivered: classroom/laboratory instruction (contextual learning), supervised agricultural experience (work-based learning), and student leadership organizations (National FFA Organization, National Young Farmer Educational Association and the National Post-Secondary Agricultural Student Organization) (Croom, 2008). That model is shown below in Figure 1.

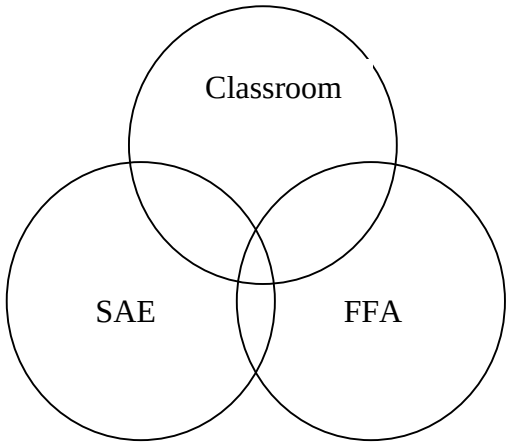

Figure 1. Agricultural Education Three Circle Model. (Croom, 2008)

As shown in the three circle model, SAE represents the work-based learning or experiential learning component of the agricultural education model. To truly expose the understanding of exploratory SAE, further analysis of the SAE program as whole must be conducted. Recommendations in previous research urge further evaluation of this component (Barrick, 1991; Lewis, Rayfield & Moore, 2012; Rubenstein, Thoron, & Estepp, 2014; Wilson & Moore, 2007).

Supervised Agricultural Experience

Project based learning provides the fundamental framework at the core of SAE. Rufus W. Stimson, often referred to as the "father of SAE" is noted for developing this teaching method regularly demonstrated in the agricultural education program. His home based projects encouraged students to discover, implement and even create

modern farming practices with adult supervision (Moore, 1988). Over the years, Stimson's "home project" became known as "supervised farming practice" within agricultural education. In 1963, the Vocational Act of 1963 required educators to include non-farm agricultural occupations in their curricula. Steele (1997) argues this change may be one of the primary causes of the decline of SAE programs. During this time period, the Russian space race was on the forefront of the world news and large populations of Americans were flooding to the urban centers of the United States. As a result, this act strived to keep up with the drastic shift of the American population from an agrarian lifestyle to one that focused around business and commerce. Consequently, the language of experience programs changed to Supervised Occupational Experience Programs (SOEP) in 1967. The purpose of SOEPs was the development of competencies related to the agricultural careers determined by agricultural students, and offer practical experience in production agriculture (Boone, Doerfert, & Elliot, 1987). Special emphasis was placed on career preparation in the agricultural field with the basic theory that students learn best through experience in agriculture. Four primary types of SOEP were conducted by students: Ownership/Entrepreneurial/Productive-Agricultural Production or Agribusiness Mini-enterprises, Paid Placement, Unpaid Placement, and Directed Laboratory (California Department of Education, 1998).

Unfortunately, as agriculture evolved over the rapidly changing years, SOEPs relevance did not. During the 1980s, the agricultural industry faced many difficult challenges. Low commodity prices, high input costs, and unfavorable weather conditions forced many away from the farm. Similarly, the demographics of agricultural education

students changed monumentally. More students came from an urban background versus a farming/rural background as seen in previous decades. Agricultural education adapted by changing its focus from just production agriculture to embrace the technological and scientific nature of the accelerated change in agriculture. SOEPs were critically evaluated and revised in 1992 by the National Council for Agricultural Education and the National FFA Foundation task force. First, the name changed from SOEP to Supervised Agricultural Experience programs (SAE) to show the diversity of agricultural education. In addition, the SOEPS were renamed and categorized to represent a new three types of SAEs: Exploratory, Entrepreneurship, and Placement (Southerland, 2010).

SAEs have developed over the years to include agribusiness endeavors, agri-science research, service-learning through agriculture, agricultural career placement programs, along with the fundamental production agriculture (NAAE, PDF document, 2005). Currently, the National FFA Organization (2014) lists the following categories of SAEs: Exploratory, Research/Experimentation, Placement, Improvement, and Ownership/Entrepreneurship. However, Improvement SAEs are not always recognized as an SAE area and are often considered part of exploratory SAE programs. An SAE is "a practical application of classroom concepts designed to provide 'real world' experiences and develop skills in agriculturally related career areas" (National FFA Organization, 2014).

Since the creation of agricultural organizations and the implementation of the SAE, Stimson's "home projects", have morphed into broader and more diverse learning

opportunities. As a result, agricultural students have demonstrated classroom concepts and truly embody the idea of "learning to do and doing to learn." Phipps, Osborne, Dyer & Ball (2008) illustrate the four major SAE categories and settings a student may gain supervised experience in Figure 2 found below.

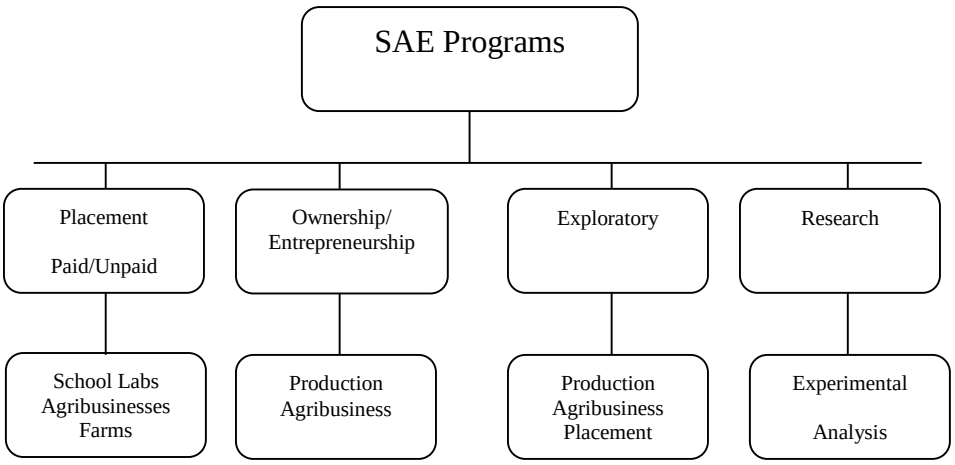

Figure 2. SAE Program Types and Settings. (Phipps, Osborne, Dyer & Ball, 2008).

SAE serves as a valuable component to the agricultural education program. According to Phipps, Osborne, Dyer, and Ball (2008), SAE programs provide a unique opportunity to blend the idea of theory and experience into a relevant and meaningful approach in the context of agriculture. Furthermore, SAE provides opportunities for students to learn in an authentic environment and not merely simulated such as laboratory setting. Additionally, several studies indicate that teachers and parents view

these programs as beneficial for enhancing skills and competencies in responsibility, career preparation, ownership, career skills, building character, and developing a deeper appreciation of agriculture, amongst others (Lamberth, E.E., 1986; Pals, D.A., 1988; Stewart, B.R. & Birkenholz, R.J., 1991). Although SAE offers these perceived values, participation continues to decline. Further research is needed to explain this phenomenon.

Beyond the mere lack of participation, another fundamental issue of SAE exists. Wilson and Moore (2007) state that agricultural educators appreciate and comprehend the value and importance of SAE, but their actions do not follow through. Teachers often fail to implement SAE into the total agricultural education program, and as a result the program remains unbalanced. This may be because teachers often believe SAE is inappropriate for their individual situation (Camp, Clarke, & Fallon, 2000), and regularly identify barriers limiting its effectiveness toward the total program, not necessarily the individual student. These barriers include limited time, number of students in the program, lack of summer employment, lack of support from school administration and community, complicatedness of recordkeeping, limited availability of resources, and lack of familiarity with newer SAE categories (Wilson & Moore, 2007). Coincidentally, this final barrier includes the newer SAE category of exploratory SAE.

Exploratory SAE

Limited research exists directly related to the topic of exploratory SAE. As previously mentioned, the exploratory component of the SAE program is fairly new and under studied. At the most basic level, exploratory SAE is "experiencing the 'big

picture' of agriculture and its many related careers" (National FFA, 2014.) This "big picture" often includes activities like career exploration, job shadowing, learning a new skill or task, and discovering new aspects of agriculture. According to Explore SAE (2014), a student's primary investment in an exploratory SAE is time. In theory, a student could invest no or little money and have a successful exploratory SAE. Phipps, Osborne, Dyer, and Ball (2008) define exploratory SAEs as "an SAE designed to assist students in learning about agriculture." Furthermore, the student may complete unrelated activities as long as they paint a broad perspective of understanding agriculture (2008). Therefore, exploratory SAEs take a mixed approach to a total SAE program. The researcher developed a conceptual model of representing exploratory SAEs place in a total agricultural education program represented in Figure 3.

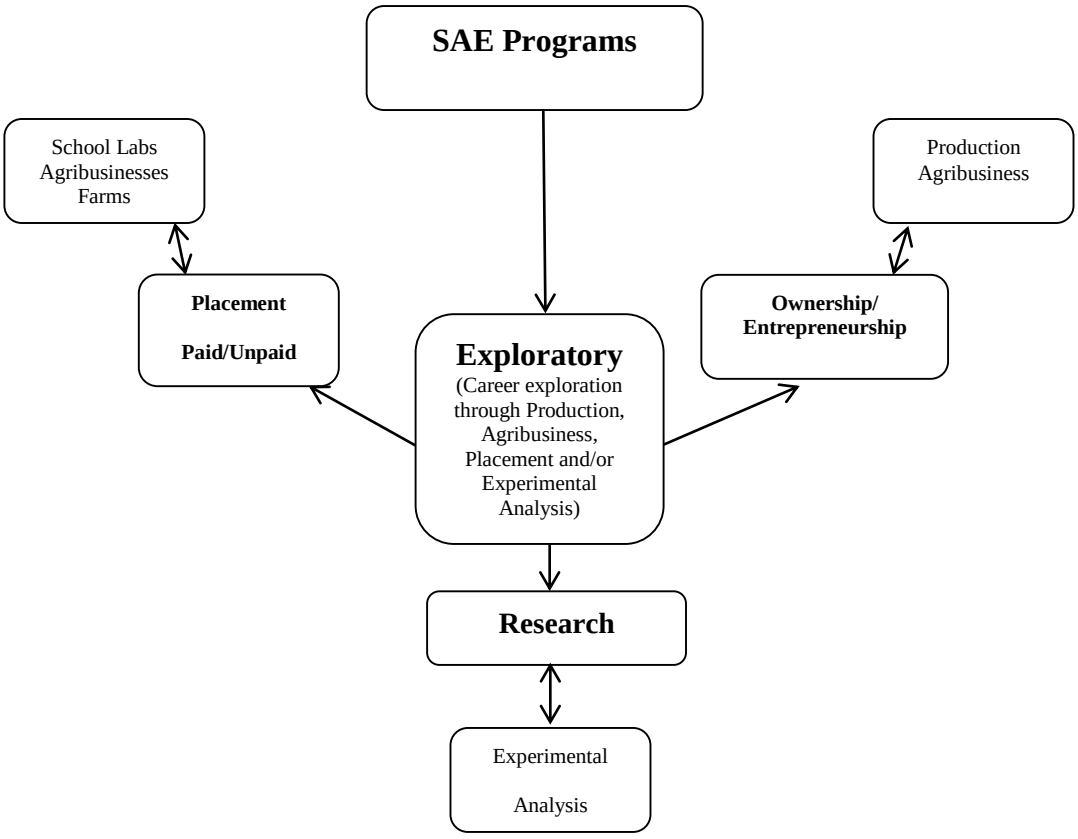

Figure 3. A conceptual model representing exploratory SAE's place in a total SAE program

While these definitions and philosophies exist, little research has been conducted to determine what makes an exploratory SAE successful or what parameters exist around an exploratory SAE.

Summary of Literature Review

From its humble beginnings in 1862 to the heavily modernized and scientific model seen today, agricultural education continues to provide useful and relevant curriculum. Nevertheless, the SAE component of the three circle model remains the least adaptive to change. As suggested by the literature, lack of familiarity to new trends in categories of SAE may be a major barrier to the growth and expansion of this critical component of agricultural education.

CHAPTER III

METHODOLOGY

Introduction

In an attempt to most effectively complete the objectives and answer the research questions previously discussed, the researchers carefully evaluated, developed, and executed a plan to conduct the study. The population, sample, research design, data collection, and data analysis were all taken into consideration when completing this study. These integral components are discussed in the following sections.

Design of Research Study

The purpose of this study was to identify the factors, relationships, and potential opportunities and barriers that exploratory SAE presents to agricultural education. This study utilized a descriptive research method and an online questionnaire. The questionnaire was designed by the researcher to solicit credible responses from the population (the panel of experts). The researcher took special care in the research design; the literature provides a view of specific barriers that must be considered. Struggles often exist in descriptive research including instrument development, ensuring that the questionnaire's inquiries are readable and are understandable; response reliability, promoting the importance of the need for the respondents to answer truthfully and to the best of their ability; and response rate, collecting a sufficient amount of responses to insure the data collected is valid and complete (Frankel and Wallen, 2009). The dependent variables of this study were the potential factors, relationships, and

opportunities within exploratory SAE. The independent variables include the definition, examples, and parameters of exploratory SAE, dictated and set by the expert panelists. Panelists were selected based on their expertise and knowledge in the field of agricultural education and more specifically, SAE.

Data collection for this study was conducted using modified Delphi method. The Delphi method is described as highly effective at obtaining a consensus among a sample group of purposively selected individuals, usually experts in a given subject (Rowe Wright, & Bolger, 1991). Because the Exploratory SAE area is open to interpretation and understanding, this method seemed the most appropriate in garnering a wide array of responses. Once these responses were gathered, they were consolidated and the panel of experts was prompted to rank their level of agreement with the specific responses. In this study, a series of questionnaires, specifically three different rounds were conducted to obtain responses. For this study, this form of data collection seemed the most appropriate and effective for data collection since the data the researcher wanted to collect had rarely been studied.

Population and Sample

The goal of the researcher was to better inform and educate stakeholders in the agricultural education profession regarding the topic of exploratory SAEs. As a result, the population of this study was a nationally recognized panel of experts within the area and scope of SAE selected by the researcher. These individuals represented a wide array of positions and stakeholders within the agricultural education field. These individuals included state and national agricultural educational specialist and staff, post-secondary

instructors and researchers, National FFA staff, and current or retired secondary agricultural education instructors who have demonstrated and continued success in implementing and supervising successful SAE programs.

According to Dalkey's first study of reliability in a Delphi, a .70 or higher reliability could be acquired when the panel of experts selected by the researcher consisted of 11 or more members (1969). When the Delphi method was tested and used in the future, researchers also learned that a group size of 13 was needed for reliability with a specific correlation coefficient of .90 (Dalkey, Rourke, Lewis, and Snyder, 1972). Therefore, the literature recommended a group size of 12 to 15 panelists. As a result, the researcher decided to select a population of N=15 for the panel of experts. The respondents in this study reached an n=14 achieving a 93% response rate across all three rounds of data collection. Also, no attrition of panelists occurred during the three rounds of data collection. The researcher also determined that individuals meeting the following criteria would have the expertise necessary to understand the meaning, relationships, factors, opportunities, and barriers of exploratory SAE. Fundamentally, these individuals met the following criteria:

1. Panelists had completed at least five years of experience in agricultural education as an instructor, or in a related field such as state staff, National FFA staff, or educational specialist.
2. Panelists were nominated by experts in the field of agricultural education as being nationally recognized for displaying expertise regarding various

perceptions, and perspectives of agricultural education, specifically the SAE component of the agricultural education model.

3. Panelists were distributed equally across National FFA Regions.

An initial email was sent to all of the individuals on the panel to serve as a recruitment message to garner willingness to participate in the study. According to Frankel and Wallen (2009), purposive sampling utilizes the researcher's judgment and specific criteria to select a sample based on prior information and knowledge that the researcher perceives will produce data needed. Nevertheless, the researcher must take special care in this type of sampling due to the possibility of error in judgment on the part of the researcher on the selection of the population.

Instrumentation

A modified Delphi method for gathering responses was used in this study. Rowe, Wright, & Bolger (1991) explained the Delphi technique as a group process built to solicit responses from purposively selected experts in a given field in order to reach an agreed consensus on a particular topic or issue. The researcher utilized the Qualtrics™ online questionnaire system and developed an original instrument for each round of data collection. The instruments were evaluated for content and face validity by a group of five agricultural education teachers and university faculty. The questionnaires were sent to the panel of experts via email, with a link to the instruments provided in each email. Round one of the study included six questions related to demographics, six open-ended questions and a question that included rank order. The open-ended questions included:

1. In your own words, please define exploratory SAE.

2. Please list five parameters that differentiate exploratory SAE from other categories.
3. Please list the five best examples of exploratory SAE projects.
4. Please describe five potential opportunities for implementing exploratory SAE in your community.
5. Please list five potential barriers to implementing exploratory SAE.
6. In your opinion, are exploratory SAE projects as they exist today considered "award worthy?" Should they qualify students to receive proficiency awards, star candidates, degree recipients, etc? Why or why not?

Round two synthesized and collapsed responses from the first round. Participants were asked to rank their level of agreement for each statement on a four-point Likert-type scale (1 = Strongly Disagree; 2 = Disagree; 3 = Agree; 4 = Strongly Agree). Level of agreement was set *a priori* at 80% or a 3.2 or higher on the four-point Likert-scale. The researcher reviewed the literature and found most Delphi studies set consensus between 75% and 90% (Conner & Roberts, 2013; Ramsey & Edwards, 2012; Saucier, McKim, & Tummons, 2012; Slusher, Robinson, & Edwards, 2011; Wooten, Rayfield, & Moore, 2013).

The third round was used to determine a consensus of the expert panel members' responses. Any items that reached agreement in the second round were removed, along with items that failed to reach an agreement level of 51% or a mean scale score of 2.05 or less. This followed similar methodology to Ramsey & Edwards (2012) Delphi study regarding entry level technical skills in agriculture. This final round served as another

measure to determine if any other items reached consensus. Nevertheless, items could not be added after round one.

Data Collection

Dillman, Smyth, and Christian's (2009) tailored design method was followed to properly collect data for this study. They recommend five points of contact should be utilized for each round of the Delphi study. The first email simply served as a method of recruitment for the study in each individual round. This email also helped clarify the methods and procedures. The second email specifically requested participation in the study and provided panelists with the Qualtrics™ link to the questionnaire. All emails were sent through Outlook from the researcher's email. All panelists were blind copied on the email to insure confidentiality and to follow Institutional Review Board (IRB) protocol. The following three emails were merely follow-up reminders to garner responses. The same procedure was repeated for rounds two and three.

Recommendations in the literature suggest researchers should make multiple contacts to the participants, and to vary the messages in each email (Dillman, Smyth, & Christian, 2009). Furthermore, messages should be personalized, avoiding bulk emails, and using the individuals first and last name (2009). This was one of the reasons the researchers opted to utilize Outlook versus the Qualtrics™ automatic system. After responses from round one were received and processed, a survey using a Likert-type scale was distributed to participants along with follow-up emails. The third and final questionnaire compiled and categorized responses from round two, and asked the panel

of experts to rank their level of agreement on a Likert-type scale from the remaining items that did not reach consensus.

Additionally, follow-up emails were sent. All data collected were stored within the online questionnaire and then downloaded on a password protected computer within the Texas A&M Agriculture and Life Sciences building. Data were backed up from this computer, and will be stored for at least three years, per IRB protocol.

Data Analysis

All data collected from this survey were collected through the Qualtrics™ system. Qualtrics™ offers some basic data analysis tools to evaluate quantitative data. Therefore, all analyses were completed through the online instrument's system. For rounds two and three, means were calculated for all Likert-type questions. These means were used to determine agreement, and established *a priori* at 3.2 or 80%. Essentially, any items reaching levels greater than this benchmark were considered to be consensus items by the panelists on the committee. Qualitative factors were also evaluated by recording frequencies. The researcher carefully evaluated panelists' responses and collapsed and group responses by categories and groups.

CHAPTER IV

RESULTS

Introduction

The purpose of this study was to explore and identify various factors surrounding the exploratory SAE category. These factors included the definition, examples of exemplary projects, specific parameters that differentiate exploratory SAEs from other SAE categories, opportunities and barriers to implementing exploratory SAEs in local programs and to determine if exploratory SAEs were degree or award worthy based on the standards set forth by the National FFA Organization. to date. The specific objectives were highlighted in Chapter I and are reemphasized here:

1. Define exploratory SAE.
2. Describe exemplars of exploratory SAE projects.
3. Identify parameters that differentiate exploratory SAE projects from other SAE categories.
4. Identify opportunities of the implementation of exploratory SAE projects.
5. Identify barriers limiting implementation of exploratory SAE projects.
6. Determine whether exploratory SAEs are degree and/or award worthy based on the current state of the category based on National FFA parameters.

Descriptive statistics and panelist responses were used to determine findings and results from the three round study and data collection. Furthermore, these finding helps solidify the objectives of the study.

Demographic Data

Demographic data were collected to help describe panelists' expertise in the given field of SAE. While the data were not directly connected to the study's objectives, it reinforced the parameters set forth by the researcher regarding panelists' expertise and qualifications to be selected for participation on the panel. Furthermore, it provided some general perceptions of SAEs to help identify factors that influenced the panelists. Data collected included gender, years in the profession, ethnicity, and community size. In addition, the panelists were asked to rank their perceptions of how each of the four primary SAE areas (entrepreneurship, placement, research and exploratory) were promoted in their local agricultural education program. Furthermore, panelists were asked if they were familiar with a new tool to assist teachers in instructing students on SAEs known as Explore SAE. A follow-up question was asked whether the panelist had, or knew of someone who had, implemented this new tool in their program. These data were collected to validate whether experts were aware of current resources to assist teachers and stakeholders in the implementation of exploratory SAE projects.

The respondents offered little variation in terms of gender (male=11, female=3), ethnicity (100% Caucasian), and years in agricultural education (6-10 years *n*=1, 11-15 years *n=2*, 16-20 years *n*=2, 20 years or more *n*= 9). These demographic variables are indicative of expertise. Ericsson, Krampe, & Tesch-Romer (1990) indicated that expertise in nearly any subject requires at least 10,000 of deliberate practice. However, the panel did show variation in where they live rural *n*=4, suburban *n*=6, and urban *n*=4). This is shown in Table 1.

Table 1

Demographic Variables. SAE Expert Panel Characteristics (*n*=14)

Demographic Variables	*f*	%
Gender		
Male	11	78.60
Female	3	21.42
Years in Agricultural Education		
6-10	1	7.14
11-15	2	14.29
16-20	2	14.29
20 or more	9	64.29
Ethnicity		
Caucasian	14	100
African-American	0	0
Asian	0	0
Hispanic	0	0
More than one	0	0
Community Demographics		
Rural	4	28.57
Suburban	6	42.86
Urban	4	28.57

When panelists were asked to share their familiarity with Explore SAE, the results varied. Panelists reported that n=9 (64.28%) were familiar with this new online tool, while n=5 (35.71%) were not. However, when asked if panelists knew someone in the profession who used Explore SAE, many did not. The results showed n=5 (35.71%) knew of someone implementing this new tool while n=9 (64.28%) did not. This is displayed in Table 2.

Table 2

Demographic Variables. SAE Expert Panel Characteristics-Familiarity w/ Explore SAE.com (*n*=14)

Demographic Variables	*f*	%
Experts familiarity with Explore SAE.com		
Yes	9	64.28
No	5	35.71
Experts familiarity with use of Explore SAE.com		
Yes	5	35.71
No	9	64.28

Finally, panelists were asked to rank the SAE categories based on their perception of how other agricultural education teachers promoted the concept of SAEs to students in their program. A ranking of one indicated the most promoted and a ranking of four indicated the least promoted. Means of overall ranking were calculated and reported in Table 3. Based on this method, a lower mean score shows a higher ranking of how the SAE area is promoted by agriculture instructors in their local programs. Panelists indicated that entrepreneurship was the most promoted with n=11 (m=0.78), followed by placement n=11 (m=1.57), research with n=8 (m=1.71), and exploratory being the least promoted with n=8 (m=2.29). These results are shown in Table 3 below.

Table 3

Demographic Variables. SAE Expert Panel Characteristics Sum of Ranks (*n*=14)

Demographic Variables	*n*	*M*
Panelists' Perception of the rank of SAE category promotion in local agricultural education programs		
Entrepreneurship	11	0.78
Placement	11	1.57
Research	8	1.71
Exploratory	8	2.29

Note: Ranking scores were summated from individual rankings on a scale of 1-4 based on how the SAE areas were promoted.

Objective 1: Define Exploratory SAEs

Round One

The purpose of this objective was to provide more clarity and understanding to the definition of exploratory SAEs. Several definitions currently exist within agricultural education. The most commonly used and accepted definition is from the National FFA Organization. This definition states that exploratory SAEs are "experiencing the "big picture" of agriculture and its many related careers" (National FFA, 2014). While this may provide a general understanding of the area, a more specific and direct definition was sought after by the researcher. During the first round of data collection, the researcher asked the expert panelists to answer the statement, "In your own words, please define exploratory SAE." The panel developed fourteen raw responses. Those responses are reported in Table 4 below.

Table 4

Round 1 Responses to Definitions of Exploratory SAEs (n=14)

Exploratory SAE Definitions	
Response	*f*
Exploring careers in agriculture	11
Conducted outside the classroom	4
Supervised by a teacher, professional or other experienced person	4
Conducted by younger students (middle school or freshmen)	3
Short term project	3
Multiple projects in a year	2
Conducted in the classroom	1
Related to AFNR areas	1

Note. (*Open ended question asked panelists to provide responses to how they would define exploratory SAEs*)

Round Two

After collecting the fourteen raw statements from the panelists, the researcher collapsed and condensed responses to eliminate repetition and make responses more concise. Reoccurring themes and perceptions were identified and used as the basis of the next round of data collection. These responses were developed into Likert-type scale questions to determine panelists level of agreement with the responses they provided in round 1. Using a 4 point scale with 1=Strongly Disagree and 4=Strongly agree, the researcher set the minimum score to identify consensus *a priori* at 80% or 3.2 or higher. Panelists were asked to respond to the following statement: "Based on your responses from Round 1, please rank your level of agreement with the following statements as they relate to how you would define exploratory SAEs." The results of round two are displayed in Table 5 below.

Table 5

Round 2 Exploratory SAE Definition Statements and Level of Agreement (n = 14)

	Mean
Exploratory Definition	
Exploring careers in agriculture	3.36
Supervised by a teacher, professional, or other experienced professional	3.29
Conducted outside of the classroom	3.14
Short term projects	3.07
Related to AFNR areas	3.00
Multiple projects in a year	3.00
Conducted by younger students (middle school or freshmen)	3.00
Conducted in the classroom	2.07

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree."

From the eight selections developed by the panelist, two items reached consensus in round two. Panelists agreed exploratory SAEs involve exploring careers in agriculture (m=3.29) and that those projects are supervised by a teacher, professional, or other experienced person (m=3.36). All other items failed to reach consensus. As a result, items that reached consensus were removed from the instrument, as well as items that failed to reach an agreement of 51% or higher. The remaining responses, those that reached agreement, but not consensus, were resent to the SAE panelists in round three.

Round Three

Utilizing a modified Delphi, the researcher determined items that failed to reach consensus in round two would be resent to panelists using the online questionnaire to determine if the remaining items would potentially reach consensus. The same four point, Likert-type scale was used in which 1=Strongly Disagree and 4=Strongly agree.

Furthermore, the researcher set level of agreement *a priori* of 80% or 3.2 or higher. Panelists were asked to respond to the same statement in round two which states: "Based on your responses from Round 1, please rank your level of agreement with the following statements as they relate to how you would define exploratory SAEs." The results of round three are displayed in Table 6 below.

Table 6

Round 3 Exploratory SAE Definition Statements and Level of Agreement (n = 14)

	Mean
Exploratory Definition	
Conducted outside of the classroom	3.36
Related to AFNR areas	3.36
Short term projects	2.86
Conducted by younger students (middle school or freshmen)	2.79
Multiple projects in a year	2.71
Conducted in the classroom	2.14

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree."

After collecting data from round three, panelists reached consensus on two more items beyond the statements reaching agreement in round two (exploratory SAEs involve exploring careers in agriculture (*m*=3.29) and those projects are supervised by a teacher, professional, or other experienced person (*m*=3.36). Items reaching consensus in round three included that panelists believe exploratory SAE's are conducted outside of the classroom (*m*=3.36) and exploratory SAE's are related to Agriculture, Food and Natural Resources (AFNR) standards (*m*=3.36). The remaining items did not reach

consensus by the panel of experts suggesting the panel did not perceive these statements helped define exploratory SAEs.

Objective 2: Describe Exemplars of Exploratory SAEs

Round One

The purpose of this objective was to better understand the practical applications of exploratory SAEs. The tangible application of the SAE area is the actual project conducted by the student. As a result, it is critical to know what an ideal project demonstrates to better implement these projects across the profession of agricultural education. In order to accurately capture what these projects look like, the researcher asked the panel of experts to respond to the following open ended statement: "Please list the five best examples of exploratory SAE projects." From this statement, the panelists developed 70 raw statements that were condensed into 45 statements. Results were collapsed to eliminate duplication and redundancy. The 45 statements are listed in Table 7 below.

Table 7

Round 1 Responses to the Five Best Examples of Exploratory SAEs (n=14)

Exploratory SAE Examples Response	*f*
Job shadowing a veterinarian	14
Observing a local agriculture professional	6
Volunteering with agricultural literacy programs	6
Volunteering at an animal shelter	6
Job shadowing at greenhouse	5
Job shadowing at a local cooperative	5
Attend a college career day	5
Interviewing an agricultural professional	5
Job shadowing a seed salesman	4

Table 7 Continued

A younger FFA member works with an older FFA member on their SAE	4
Volunteering with the local food bank	4
School and/or community gardens	4
Job shadowing at an animal shelter	3
Observing an agricultural lender	3
Growing a flat of plants in the greenhouse	3
Agri-science fair projects	3
Working in school agricultural facilities	3
Internships	3
Job shadowing an artificial insemination technician	2
Job shadowing at a tree nursery	2
Job shadowing at a local equipment dealership	2
Job shadowing at a dairy production facility	2
Teaching a mini-lesson on agriculture to third graders	2
Research projects	2
Volunteering at the local humane society	2
Job shadowing at a local thoroughbred race track	1
Job shadowing at poultry facility	1
Job shadowing at the local extension office	1
Job shadowing at a research station	1
Job shadowing at local chamber of commerce	1
Job shadowing an agriculture teacher as the teacher conducts SAE visits	1
Job shadowing with an insurance agent	1
Individual market animal projects	1
Student compiles a scrapbook about a specific agricultural career	1
Student reflects on what agriculture career best suits their personality	1
Starting a new business	1
A student works with a laboratory technician to learn about laboratory safety and importance of sanitation in the laboratory with lab equipment	1
Showing livestock	1
Develop SAE plans and goals	1
Writing a paper on agricultural careers	1
Agricultural field trips	1
Under the advisement of an agricultural technician, a student is allowed an introductory session on a front end loader computer simulator	1
A student works with a certified welder to experience set up, safety procedures, and equipment and beginning activities for various types of welding	1

Table 7 Continued

Computer simulations in agricultural equipment and maintenance	1

Note. (*Open ended question asked panelists to provide responses of the five best examples of exploratory SAEs*)

Round Two

Based on the 45 collected responses, the researcher asked panelists to respond to their statements in round two with a Likert-type question, utilizing a 1=Strongly Disagree to 4=Strongly Agree scale. Consensus was set *a priori* at 80% or 3.2 on the Likert-type scale asking level of agreement. SAE experts were asked to rank their level of agreement to the following statement: "Based on your responses from Round 1, please rank your level of agreement with the following statements as they relate to the best examples of exploratory SAEs." The results of round two are located in Table 8.

Table 8

Round 2 Responses to the Five Best Examples of Exploratory SAEs (n=14).

	Mean
Exploratory Examples	
Job shadowing an agriculture teacher as the teacher conducts SAE visits	3.36
Job shadowing a dairy production facility	3.29
Job shadowing a seed salesman	3.29
Job shadowing a veterinarian	3.29
Job shadowing an artificial insemination technician	3.29
Job shadowing at a local cooperative	3.29
Job shadowing at a local equipment dealership	3.29
Job shadowing at greenhouse	3.29
Job shadowing at poultry facility	3.29
Job shadowing at a local thoroughbred race track	3.21
Job shadowing at a tree nursery	3.21

Table 8 Continued

Job shadowing at an animal shelter	3.21
Observing a local agriculture professional	3.21
A student works with a laboratory technician to learn about laboratory safety and importance of sanitation in the laboratory with lab equipment	3.14
Job shadowing at a research station	3.14
Job shadowing at the local extension office	3.14
Observing an agricultural lender	3.14
Volunteering with agricultural literacy programs	3.14
A student works with a certified welder to experience set up, safety procedures, and equipment and beginning activities for various types of welding	3.07
Growing a flat of plants in the greenhouse	3.07
Volunteering at the local humane society	3.07
Interviewing an agricultural professional	3.00
Volunteering at an animal shelter	3.00
Student compiles a scrapbook about a specific agricultural career	2.93
Volunteering with the local food bank	2.93
Working in school agricultural facilities	2.93
Agricultural field trips	2.86
Internships	2.86
Job shadowing with an insurance agent	2.86
Under the advisement of an agricultural technician, a student is allowed an introductory session on a front end loader computer simulator	2.86
Job shadowing at local chamber of commerce	2.79
School and/or community gardens	2.79
Teaching a mini-lesson on agriculture to third graders	2.79
Attend a college career day	2.71
Agri-science fair projects	2.64
Computer simulations in agricultural equipment and maintenance	2.64
Research projects	2.64
Student reflects on what agriculture career best suits their personality	2.64
Writing a paper on agricultural careers	2.64
A younger FFA member works with an older FFA member on their SAE	2.50
Develop SAE plans and goals	2.43
Individual market animal projects	2.43
Showing livestock	2.36
Starting a new business	1.86

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree"

Panelists reached consensus on 13 of the 45 items (28%) in round two. Panelists agreed job shadowing a list of career professionals including a veterinarian, an artificial insemination technician, a seed salesman, at a tree nursery, at a poultry facility, at a local equipment dealership, at a local cooperative, and a dairy production facility all were best examples of exploratory SAEs with an agreement level of (m=3.29). Furthermore, panelists also agreed job shadowing at a local thoroughbred race track, at a local greenhouse, at an animal shelter, and observing a local agricultural professional were best examples of exploratory projects (m=3.21). Finally, the panel reached consensus that job shadowing an agriculture teacher as the teacher conducts SAE visits is another strong example (m=3.36). All items failing to consensus were evaluated and added to the third round questionnaire. Additionally, any responses failing to reach a 51% level of agreement were removed as well.

Round Three

During round three of data collection, panelists were asked to determine their level of agreement with the remaining items that failed to reach consensus in round two. The same four point, Likert-type scale was used in which 1=Strongly Disagree and 4=Strongly agree. Furthermore, the researcher set level of agreement *a priori* at 80% or 3.2 or higher. Panelists were asked to respond to the same statement in round two which states: "Based on your responses from Round 1, please rank your level of agreement with the following statements as they relate to the best examples exploratory SAEs." The findings of round three of data collection are summarized in Table 9.

Table 9

Round 3 Responses to the Five Best Examples of Exploratory SAEs (n=14)

	Mean
Exploratory Examples	
Job shadowing at the local extension office	3.50
A student works with a certified welder to experience set up, safety procedures, and equipment and beginning activities for various types of welding	3.29
A student works with a laboratory technician to learn about laboratory safety and importance of sanitation in the laboratory with lab equipment	3.21
Agri-science fair projects	3.07
Volunteering at an animal shelter	3.07
Job shadowing at a research station	3.00
Teaching a mini-lesson on agriculture to third graders	3.00
Under the advisement of an agricultural technician, a student is allowed an introductory session on a front end loader computer simulator	3.00
Volunteering with agricultural literacy programs	3.00
Showing livestock	2.21
Volunteering at the local humane society	3.00
Growing a flat of plants in the greenhouse	2.86
Research projects	2.86
Working in school agricultural facilities	2.86
School and/or community gardens	2.86
Interviewing an agricultural professional	2.79
Job shadowing with an insurance agent	2.71
Volunteering with the local food bank	2.71
Job shadowing at local chamber of commerce	2.64
A younger FFA member works with an older FFA member on their SAE	2.64
Attend a college career day	2.57
Student compiles a scrapbook about a specific agricultural career	2.50
Computer simulations in agricultural equipment and maintenance	2.50
Internships	2.50
Develop SAE plans and goals	2.43
Agricultural field trips	2.43
Individual market animal projects	2.36
Student reflects on what agriculture career best suits their personality	2.36
Writing a paper on agricultural careers	2.36

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree"

Round 3 data collection yielded three more items reaching consensus. Panelists agree that job shadowing at the local extension office (m=3.50), a student works with a laboratory technician to learn about laboratory safety and importance of sanitation in the laboratory with lab equipment (m=3.21), and a student works with a certified welder to experience set-up, safety procedures, equipment, and beginning activities for various types of welding (m=3.29) are all best examples of exploratory SAEs. The remaining items failed to reach consensus.

Objective 3: Identify Parameters that Differentiate Exploratory SAE Projects from other SAE Categories

Round One

Exploratory SAEs differ from what many within agricultural education consider to be the traditional scope of SAE projects. The purpose of this objective was to better understand and identify the parameters that set the exploratory SAE area apart from other areas. As a result, panelists were asked to respond to the following statement: "Please list five parameters that differentiate exploratory SAEs from the other categories." Round one yielded a 93% response rate (n=14) and panelists provided 70 raw responses. After these responses were condensed and collapsed to eliminate duplicates and redundancy, 26 statements remained. These statements are shown in Table 10.

Table 10

Round 1 Responses to Parameters that Differentiate Exploratory SAEs from other SAE Categories (n=14)

Exploratory SAE Parameters	
Response	*f*
Very basic or introductory information	11
Short term	10
Little to no financial investment	8
Very broad	8
Can lead to expanded scope, investment, and or other SAE areas	8
Multiple projects in a year	7
Small scale	7
Student does not already have an established SAE area	7
Basic or introductory record keeping	7
Projects change frequently	6
Varied and diverse	5
Non-ownership	3
Skills or competencies are developed	3
Easily replicated	3
At least one other party to complete or supervise	3
No student responsibility and/or risk	2
Tailored to any situation	2
Requires more reflection	1
No true skill or competency development	1
Does not follow a research hypothesis	1
Harder to earn FFA degrees and awards	1
Only appropriate for younger students	1
Occurs in the agricultural classroom	1
Explores career ideas, does not conduct projects	1
Minimal supervision	1
No employment contract	1

Note. (Open ended question asked panelists to provide responses for parameters that differentiated exploratory SAEs from other SAE areas)

Round Two

Based on these collapsed 26 responses, the researcher requested panelists determine their level of agreement with the statements they provided. The online questionnaire utilized a Likert-type question, utilizing a 1=Strongly Disagree to 4=Strongly Agree scale. Level of agreement was set *a priori* at 80% or 3.2 on the Likert-type scale. SAE experts were asked to rank their level of agreement to the following statement: "Based on your first round responses, please rank your level of agreement with the following statements as they relate to parameters that differentiate the Exploratory SAE category from other categories." The results of round two are located in Table 11.

Table 11

Round 2 Responses to Parameters that Differentiate Exploratory SAEs from other SAE Categories (n=14).

	Mean
Exploratory Parameters	
Little to no financial investment	3.29
Very basic or introductory information	3.29
Can lead to expanded scope, investment, and or other SAE areas	3.21
Short term	3.14
Varied and diverse	3.14
Very broad	3.07
Basic or introductory record keeping	3.00
Multiple projects in a year	2.93
Projects change frequently	2.93
Small scale	2.93
Non-ownership	2.93
Tailored to any situation	2.86
Easily replicated	2.79
At least one other party to complete or supervise	2.79

Table 11 Continued

Skills or competencies are developed	2.71
Explores career ideas, does not conduct projects	2.64
No employment contract	2.64
Harder to earn FFA degrees and awards	2.57
Student does not already have an established SAE area	2.50
Requires more reflection	2.50
Does not follow a research hypothesis	2.43
Minimal supervision	2.43
No student responsibility and/or risk	2.36
No true skill or competency development	2.29
Only appropriate for younger students	2.29
Occurs in the agricultural classroom	2.00

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree"

Panelists reached consensus on three items of the 26 collapsed responses (12%). The SAE experts agree that exploratory SAEs should have little to no financial investment (M=3.29), include very basic or introductory information (M=3.29), and can lead to expanded scope, investment, and/or other SAE areas (M=3.21). All items failing to reach consensus were evaluated and added to the third round questionnaire. Additionally, any responses failing to reach a 51% or a mean score of 2.05 were removed as well.

Round Three

During round three of data collection, panelists were asked to determine their level of agreement with the remaining items that failed to reach consensus in round two. The same four point, Likert-type scale was used in which 1=Strongly Disagree and 4=Strongly agree. Furthermore, the researcher set consensus *a priori* at 80% or 3.2 or higher. Panelists were asked to respond to the same statement in round two which states:

"Based on your responses from Round 1 and 2, please rank your level of agreement with the following statements as they relate to parameter that differentiate the Exploratory SAE category from the other categories." The findings of round three of data collection are summarized in Table 12.

Table 12

Round 3 Responses to Parameters that Differentiate Exploratory SAEs from other SAE Categories (n=14).

	Mean
Exploratory Parameters	
Small scale	3.00
Basic or introductory record keeping	2.93
Short term	2.86
Varied and diverse	2.86
At least one other party to complete or supervise	2.86
Skills or competencies are developed	2.79
Does not follow a research hypothesis	2.79
Very broad	2.71
Harder to earn FFA degrees and awards	2.71
Multiple projects in a year	2.64
Student does not already have an established SAE area	2.64
Easily replicated	2.64
Projects change frequently	2.57
Tailored to any situation	2.57
No employment contract	2.57
Explores career ideas, does not conduct projects	2.43
Requires more reflection	2.36
Non-ownership	2.29
Only appropriate for younger students	2.21
Occurs in the agricultural classroom	2.14
Minimal supervision	2.07
No true skill or competency development	2.00
No student responsibility and/or risk	1.79

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree"

Round 3 data collection indicated that no other items reached consensus. Although a wide array of responses were given by panelists, very few could specifically reach agreement as to how this category differs from other areas.

Objective 4: Identify Opportunities of the Implementation of Exploratory SAE Projects

Round One

The purpose of this objective was to better identify specific opportunities dealing with the implementation of exploratory SAEs into the local agricultural education programs. By identifying these opportunities, this may allow stakeholders within the profession to better promote this newer SAE area. The panel of experts was asked to provide responses to the open ended question that stated: "Please describe five potential opportunities for implementing exploratory SAE's in your community." Round one yielded a 93% response rate (*n=14)* with 64 raw responses. The researcher then collapsed and consolidated responses to eliminate duplications and to help provide clarity to the responses. Following this, 11 responses remained. Those responses are shown in Table 13.

Table 13

Round 1 Responses to Opportunities of Implementing Exploratory SAEs into Local Agricultural Education Programs (n=14).

Exploratory SAE Implementation Opportunities Response	*f*
More students will be involved in SAEs	14
Working with agribusinesses in the community	12
Allows students to learn more about careers and career pathways	8
Gets students involved at an earlier grade level	7
More career exploration	6
Helps non-traditional students gain important career development skills	4
Develops mentorship from older students	3
Offers career training to students	3
More community service opportunities	2
Students improve science and workplace skills	1
Students work with computer simulations and gain valuable skill development	1

Note. (Open ended question asked panelists to provide responses for five potential opportunities for implementing exploratory SAEs into local agricultural education programs.)

Round Two

Based on eleven collapsed responses, the researcher requested panelists determine their level of agreement with the statements they had generated. The online questionnaire utilized a Likert-type question, utilizing a 1=Strongly Disagree to 4=Strongly Agree scale. Level of agreement was set *a priori* at 80% or 3.2 on the Likert-type scale. SAE experts were asked to rank their level of agreement to the following statement: "Based on your first round responses, please rank your level of agreement with the following statements as they relate to potential opportunities for implementing

exploratory SAEs into your local agricultural education programs." The results of round two are located in Table 14.

Table 14

Round 2 Responses to Opportunities for Implementing Exploratory SAEs into Local Agricultural Education Programs and Level of Agreement (n = 14)

	Mean
Exploratory SAE Opportunities	
More students will be involved in SAEs	3.29
Allows students to learn more about careers and career Pathways	3.29
More career exploration	3.29
Gets students involved at an earlier grade level	3.21
Work with agribusinesses in the community	3.14
Helps non-traditional students gain important career development skills	3.14
More community service opportunities	2.93
Develops mentorship from older students	2.86
Offers career training to students	2.86
Students improve science and workplace skills	2.86
Students work with computer simulations and gain valuable skill development	2.64

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree."

Panelists reached consensus on four items of the 11 collapsed responses (36%). The SAE experts agree that exploratory SAEs provide opportunities for more students to be involved in SAEs (*m*=3.29), allows students to learn more about careers and career pathways (*m*=3.29), offers more career exploration (*m*=3.29*),* and can get students involved in the program at an earlier grade level (*m*=3.21). All items failing to reach

consensus were evaluated and added to the third round questionnaire. Additionally, any responses failing to reach a 51% level of agreement or a mean of 2.05 or less were removed as well.

Round Three

During round three of data collection, panelists were asked to determine their level of agreement with the remaining items that failed to reach consensus in round two. The same four point, Likert-type scale was used in which 1=Strongly Disagree and 4=Strongly agree. Furthermore, the researcher set consensus *a priori* at 80% or a mean 3.2 or higher. Panelists were asked to respond to the same statement provided in round two: "Based on your responses from Round 1 and 2, please rank your level of agreement with the following statements as they relate to potential opportunities for implementing exploratory SAEs into your local agricultural education programs." The findings of round three of data collection are summarized in Table 15.

Table 15

Round 3 Responses to Opportunities for Implementing Exploratory SAEs into Local Agricultural Education Programs and Level of Agreement (n = 14)

Exploratory SAE Opportunities	Mean
Work with agribusinesses in the community	3.43
Helps non-traditional students gain important career development skills	3.07
Students improve science and workplace skills	3.07
Develops mentorship from older students	2.93
Offers career training to students	2.86
More community service opportunities	2.79
Students work with computer simulations and gain valuable skill development	2.79

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree."

Round 3 data collection indicated that one more item was an opportunity for implementing exploratory SAE. The panel of experts determined that working with agribusinesses in the community (m=3.43) was an opportunity. All other remaining items failed to reach consensus.

Objective 5: Identify Barriers of the Implementation of Exploratory SAE Projects

Round One

The purpose of this objective was to better identify specific barriers of the implementation of exploratory SAEs into the local agricultural education programs. By identifying these barriers, this may allow stakeholders within the profession to be aware of potential struggles and challenges of promoting and implementing this newer SAE area. The panel of experts was asked to provide responses to the open ended question

that stated: “Please list five potential barriers to implementing exploratory SAE.” Round one yielded a 93% response rate (*n=14)* with 70 raw responses. The researcher then collapsed and consolidated responses to eliminate duplications and to help provide clarity to the responses. Following this, 29 responses remained. Those responses are shown in Table 16

Table 16

Round 1 Responses to Barriers that may Limit Implementation of Exploratory SAEs (n=14).

Exploratory SAE Barriers Response	*f*
Transportation of students	12
SAE area unclear/broadly defined	9
Liability	8
Time	6
Accountability of SAE project funds	6
No criterion for SAE area	6
Lack of administrative support	6
Student initiative/motivation	4
Cost	4
Not FFA degree or award worthy	3
Limited philosophy that SAE is just about the money and the experience	3
Lack of recognition for the exploratory SAE area	3
Not a true SAE area	2
Harder to supervise and manage for agricultural instructor	2
Finding quality mentors/supervisors	1
More work/effort for agriculture teachers than standard SAEs	1
Negative attitudes of teachers and educators towards exploratory SAEs	1
Lack of teacher interest	1
Limited opportunities in the community	1
Perceived as “busy work”	1
Safety concerns	1
Students will not advance to other SAE levels	1

Table 16 Continued

Age of students	1
Student absences and missing limited number of school days	1
Driven by an FFA award system that has no educational merit	1
Competition with other high school and student events	1
Students recognized by money and scope, not experience	1
Agriculture educators do not know how to assess and/or grade Exploratory SAEs	1
Need to target troubled youth	1

Note. (*Open ended question asked panelists to provide responses to five potential barriers of implementing exploratory SAEs*)

Round Two

Based on these collapsed 29 responses, the researcher requested panelists determine their level of agreement with the statements they had generated. The online questionnaire utilized a Likert-type question, utilizing a 1=Strongly Disagree to 4=Strongly Agree scale. Consensus was set *a priori* was set at 80% or 3.2 on the Likert-type scale. SAE experts were asked to rank their level of agreement to the following statement: "Based on your first round responses, please rank your level of agreement with the following statements as they relate to potential barriers for implementing exploratory SAEs into your local agricultural education program." The results of round two are located in Table 17.

Table 17

Round 2 Responses to Potential Barriers of Implementing Exploratory SAEs (n=14).

Exploratory SAE Barriers	Mean
No criterion for SAE area	2.93
Lack of recognition for the exploratory SAE area	2.79
SAE area unclear/broadly defined	2.71
Finding quality mentors/supervisors	2.71
Negative attitudes of teachers and educators towards exploratory SAEs	2.71
Transportation of students	2.64
Competition with other high school and student events	2.64
Agriculture educators do not know how to assess and/or grade Exploratory SAEs	2.64
Lack of teacher interest	2.57
Liability	2.50
Time	2.50
Limited philosophy that SAE is just about the money and the experience	2.50
Student initiative/motivation	2.43
Not a true SAE area	2.36
Age of students	2.36
Limited opportunities in the community	2.29
Safety concerns	2.29
Driven by an FFA award system that has no educational merit	2.29
Students will not advance to other SAE levels	2.21
Student absences and missing limited number of school days	2.21
Lack of administrative support	2.21
Perceived as "busy work"	2.14
Students recognized by money and scope, not experience	2.14
Harder to supervise and manage for agricultural instructor	2.07
Not FFA degree or award worthy	2.07
Cost	2.00
Need to target troubled youth	2.00
Accountability of SAE project funds	1.93
More work/effort for agriculture teachers than standard SAEs	1.86

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree"

Panelists failed to reach consensus on any of the 29 items. All of the items from Round 2 were evaluated and added to the third round questionnaire. Additionally, any

responses failing to reach a 51% level of agreement or a mean score of 2.05 were removed as well.

Round Three

During round three of data collection, panelists were asked to determine their level of agreement with the remaining items that failed to reach consensus in round two. The same four point, Likert-type scale was used in which 1=Strongly Disagree and 4=Strongly Agree. Furthermore, the researcher set *a priori* of 80% or 3.2 or higher. Panelists were asked to respond to the same statement provided in round two: "Based on your responses from Round 1 and 2, please rank your level of agreement with the following statements as they relate to potential barriers for implementing exploratory SAEs into your local agricultural education program." The findings of round three of data collection are summarized in Table 18.

Table 18

Round 3 Responses to Potential Barriers of Implementing Exploratory SAEs (n=14).

	Mean
Exploratory SAE Barriers	
SAE area unclear/broadly defined	3.00
Agriculture educators do not know how to assess and/or grade Exploratory SAEs	3.00
Lack of recognition for the exploratory SAE area	2.93
No criterion for SAE area	2.79
Negative attitudes of teachers and educators towards exploratory SAEs	2.79
Time	2.57
Finding quality mentors/supervisors	2.57
Competition with other high school and student events	2.57
Transportation of students	2.50
Not FFA degree or award worthy	2.50

Table 18 Continued

Limited philosophy that SAE is just about the money and the experience	2.50
Lack of teacher interest	2.50
Students recognized by money and scope, not experience	2.43
Student initiative/motivation	2.36
Not a true SAE area	2.36
Perceived as "busy work"	2.21
Harder to supervise and manage for agricultural instructor	2.21
Age of students	2.14
Students will not advance to other SAE levels	2.07
Student absences and missing limited number of school days	2.07
Safety concerns	2.07
Liability	2.07
Limited opportunities in the community	2.00
Lack of administrative support	2.00
Driven by an FFA award system that has no educational merit	1.93

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree"

Round 3 data collection indicated that once again, no items reached consensus. While barriers such as the SAE area being too broadly defined and agriculture educators do not know how to assess and/or grade exploratory SAEs two items did reach (*M=3.00)* level of agreement, this failed to reach the set level of 3.2 or 80%.

Objective 6: Determine Whether Exploratory SAEs are Degree and/or Award Worthy Based on the Current State of the Category based on National FFA Parameters

Round One

The purpose of this objective was to determine if the exploratory SAE category as it exists in the present is eligible for degree and award recognition from the National FFA organization. Many teachers' decisions to participate in SAE programs are driven

by the motivation of awards and degrees for the project (Wilson & Moore, 2007). This objective sought to clarify if this area was worthy of those pursuits. During the first round of data collection, the researcher asked the expert panelists to answer the statement, “In your opinion, are exploratory SAE projects as they exist today considered ‘award worthy’? Should they qualify students to receive Proficiency Awards, Star Candidates, degree recipient, etc? Why or why not?” Round one yielded a 93% response rate and the panel developed fourteen raw responses that were collected. Those responses were categorized collapsed and condensed to 11 statements regarding the panelist’s opinion on exploratory SAEs. Based on the panel of SAE experts, (n=8) agree that exploratory SAEs are award and degree worthy (57%) and (n=6) agree that exploratory SAEs are not degree and award worthy (43%). Additionally, the panelist’s perceptions were recorded. Panelist reasons for supporting the idea that exploratory SAEs are award and degree worthy are demonstrated in Table 19.

Table 19

Round 1 Responses to "Yes, Exploratory SAEs as they exist today are award and/or degree worthy (n=8).

Yes, award and/or degree worthy	
Response	*f*
Only if the project is "quality"	5
Only when transformed into a broader project	3
Only for local degrees and awards	3
Exploratory SAES deserve stand-alone recognition for FFA degrees and award programs	2
Only for degree recognition, not FFA award programs	1
Exploratory SAEs should be heavily promoted to develop award areas and degree satisfaction	1

Note. (*Open ended question asked panelists to provide responses to whether they considered exploratory SAES as the existed today award and/or degree worthy.*

Panelist's responses who state that exploratory SAEs are not award and degree worthy are recorded in Table 20

Table 20

Round 1 Responses to "No, Exploratory SAEs as they exist today are NOT award and/or degree worthy (n=6).

No, not award and/or degree worthy	
Response	*f*
Student has not invested enough time in the project	5
Only a "gateway" or first step SAE	5
Student does not have enough scope to make the project competitive	4
Student has not invested enough money in the project	3
Not an SAE area	1

Note. (*Open ended question asked panelists to provide responses to whether they considered exploratory SAES as the existed today award and/or degree worthy.*

Round Two

After collecting the responses from round 1, panelists were asked to rank their level of agreement to the statements they made regarding whether exploratory SAEs were award and/or degree worthy. Reoccurring themes and perceptions were used as the basis of the next round of data collection. These responses were developed into a Likert-type scale question to determine panelists level of agreement with the response they provided in round 1. Using a 4 point scale with 1=Strongly Disagree and 4=Strongly Agree, the researcher set *a priori* of 80% or 3.2 or higher. Once again, the panel of SAE experts, (n=8) agree that exploratory SAEs are award and degree worthy (57%) and (n=6) agree that exploratory SAEs are not degree and award worthy (43%). Using the skip logic function embedded in the online instrument, panelists that selected "Yes, exploratory SAEs are award and/or degree worthy," were directed to the appropriate responses based on their perceptions. The same protocol was followed for panelist who selected "No, exploratory SAEs are not degree or award worthy." Table 21 demonstrates the panelists' agreement with statements that were in favor of exploratory SAEs being award and/or degree worthy.

Table 21

Round 2 Responses to "Yes, Exploratory SAEs as they exist today are award and/or degree worthy and Level of Agreement (n = 8)

	Mean
Yes, award and/or degree worthy	
Only if the project is "quality"	3.00
Exploratory SAES deserve stand-alone recognition for FFA degrees and award programs	2.63
Exploratory SAEs should be heavily promoted to develop award areas and degree satisfaction	2.63
Only for local degrees and awards	2.38
Only when transformed into a broader project	2.13
Only for degree recognition, not FFA award programs	2.00

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree."

Table 22 demonstrates the panelists' agreement with the statements that were not in favor of exploratory SAEs being award and/or degree worthy.

Table 22

Round 2 Responses to "No, Exploratory SAEs as they exist today are NOT award and/or degree worthy and Level of Agreement (n=6)

	Mean
No, not award and/or degree worthy	
Only a "gateway" or first step SAE	3.67
Student has not invested enough time in the project	3.33
Student has not invested enough money in the project	3.00
Student does not have enough scope to make the project competitive	3.00
Not an SAE area	2.33

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree."

All items presented to the panelists who agreed that exploratory SAEs are award and degree worthy failed to reach consensus in round two. Those items were represented to the same panelist in round three. However, panelists who believed exploratory SAEs were not award and/or degree worthy managed to reach consensus on two items. Those panelists agreed exploratory SAEs were merely a "gateway" or first step SAE (m=3.67) and that the student has not invested enough time in the project (m=3.33). The remaining three items failed to reach consensus. As a result, items that reached consensus were removed from the instrument and were resent to the SAE panelists in round three.

Round Three

Utilizing a modified Delphi method, the researcher determined items that failed to reach consensus in round two would be resent to panelists from the online questionnaire to determine if the remaining items would potentially reach consensus. The same four point, Likert-type scale was used in which 1=Strongly Disagree and 4=Strongly agree. Furthermore, the researcher set consensus *a priori* at 80% or 3.2 mean score or higher. Consistent with rounds one and two, the panel of SAE experts, (n=8) agree exploratory SAEs are award and degree worthy (53.33%) and (n=6) agree exploratory SAEs are not degree and award worthy (42.86%). The SAE experts were asked again to rank their level of agreement with the statements that either supported the philosophy that exploratory SAEs are or are not award and/or degree worthy. The responses of round three who agree that exploratory SAEs are award and degree worthy are displayed in Table 23.

Table 23

Round 3 Responses to "Yes, Exploratory SAEs as they exist today are award and/or degree worthy and Level of Agreement (n = 8)

	Mean
Yes, award and/or degree worthy	
Only if the project is "quality"	2.75
Only for local degrees and awards	2.75
Exploratory SAES deserve stand-alone recognition for FFA degrees and award programs	2.38
Only when transformed into a broader project	2.13
Exploratory SAEs should be heavily promoted to develop award areas and degree satisfaction	2.00
Yes, award and/or degree worthy	

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree."

Additionally, those panelists' perceptions that disagree about exploratory SAEs being award and/or degree worthy are demonstrated in Table 24.

Table 24

Round 3 Responses to "No, Exploratory SAEs as they exist today are NOT award and/or degree worthy and Level of Agreement (n=6)

	Mean
No, not award and/or degree worthy	
Student does not have enough scope to make the project competitive	3.17
Student has not invested enough money in the project	2.83
Not an SAE area	2.17

Note. Scale: "1" = "Strongly Disagree," "2" = "Disagree," "3" = "Agree," "4" = "Strongly Agree."

After collecting data from round three, panelists who agree that exploratory SAEs are degree and/or award worthy failed to reach consensus on any of the six items. Similarly, panelists who believed that exploratory SAES are not award and/or degree worthy also failed to reach consensus on any of the remaining items that did not reach consensus in round two.

Summary

A study of (n=14) of nationally recognized SAE experts was conducted in an effort to discover new phenomena, perceptions and understanding of the exploratory SAE category. The findings of this study included demographic data, the definition of exploratory SAEs, exemplary examples of exploratory SAE projects, parameters that differentiate exploratory SAE projects from other SAE categories, opportunities of the implementation of exploratory SAE projects, barriers limiting implementation of exploratory SAE projects, and whether exploratory SAEs are degree and/or award worthy based on the current state of the category based on National FFA parameters.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

As a direct result of the findings in Chapter IV, many conclusions, implications, and recommendations can be suggested about exploratory SAEs. Perhaps the profession can better understand, advise, develop, and implement these projects across the breadth and scope of agricultural education. The specific objectives of this study are further demonstrated and recommendation discussed.

Purpose and Objectives

This study sought to determine various factors surrounding the exploratory SAE category. Since agricultural education must change adapt to the unstable environment of public education, innovative approaches to foundations of the program bring new opportunities to meet students' needs. Factors that affect the exploratory SAE category include definition, examples of projects, parameters that differentiate this category from other SAE categories, opportunities and barriers for implementing these projects and whether or not these projects are award and degree worthy by National FFA standards. These factors are more closely considered in the research objectives stated below:

1. Define exploratory SAE.
2. Describe exemplars of exploratory SAE projects.
3. Identify parameters that differentiate exploratory SAE projects from other SAE categories.

4. Identify opportunities of the implementation of exploratory SAE projects.
5. Identify barriers limiting implementation of exploratory SAE projects.
6. Determine whether exploratory SAEs are degree and/or award worthy based on the current state of the category based on National FFA parameters.

Summary of Methodology

This study was descriptive in nature, and utilized a modified Delphi method to collect and gather responses. According to Linestone and Turoff, the Delphi method is best characterized when designing a group communication process that allows a group of individuals to deal with a complex problem in a holistic approach (1975). The researcher utilized the modified Delphi method to garner responses and develop consensus on items of relevance and importance to the research problem. Furthermore, three different online instruments were developed to assist in the data collection process.

While the broader population may be considered the agricultural education profession, a purposively selected sample of 15 SAE experts was selected to serve as the population. These experts were selected based on the following criteria:

1. Panelists had completed at least five years of experience in agricultural education as an instructor or related field such as state staff, National FFA staff, or educational specialist.
2. Panelists were nominated by experts in the field of agricultural education as being nationally recognized for displaying expertise regarding various

perceptions and perspectives of agricultural education, specifically the SAE component of the agricultural education model.

3. Panelists were distributed equally across National FFA Regions.

Once these panelists were selected, they were recruited via email and were asked to participate in the three round study. Of the 15 experts contacted to participate, 14 managed to complete the instruments across all of the rounds of data collection yielding a 93% response rate.

The researcher created instruments were evaluated for content and face validity and reliability by a small group of agriculture teachers and university faculty. The specific questionnaires were distributed to the panel through the use of email and providing a link to the panelists. Round one of the study asked six questions related to demographics, six open-ended questions and a question that included rank order. The open-ended questions included:

1. In your own words, please define exploratory SAE.
2. Please list five parameters that differentiate exploratory SAE from other categories.
3. Please list the five best examples of exploratory SAE projects.
4. Please describe five potential opportunities for implementing exploratory SAE in your community.
5. Please list five potential barriers to implementing exploratory SAE.

6. In your opinion, are exploratory SAE projects as they exist today considered "award worthy?" Should they qualify students to receive proficiency awards, star candidates, degree recipients, etc.? Why or why not?

Round two synthesized and collapsed responses from the first round and participants were asked to rank their level of agreement for each statement on a four-point Likert-type scale (1 = Strongly Disagree; 2 = Disagree; 3 = Agree; 4 = Strongly Agree). A priori was set at 80% or a 3.2 or higher on the Likert-scale. The third round was used to determine a consensus of the expert panel members' responses. Any items that reached agreement in the second round were removed, along with items that failed to reach an agreement of 51% or 2.05 or less. This final round served as another measure to determine if any other items reached consensus.

Dillman, Smyth, and Christian's tailored design method (2009) was followed to properly collect data for this study. Dillman, Smyth and Christian recommend five points of contact should be utilized for each round of the Delphi study. The first email simply served as a method of recruitment for the study and each individual round. The email also helped clarify the methods and procedures. The second email specifically requested participation in the study and provided panelists with the Qualtrics™ link to the questionnaire. All emails were sent through Outlook from the researcher's email. All panelists were blind copied on the email to insure confidentiality and to follow Institutional Review Board (IRB) protocol.

All data collected from this survey was collected through the Qualtrics™ system. Furthermore, Qualtrics™ offers some basic data analysis through its system. Therefore,

all analysis was completed through the questionnaire's system. For rounds two and three, mean was calculated on all Likert-type questions. These mean scores were used to dictate level of agreement and were measured by setting consensus level *a priori* at a mean score of 3.2 or 80%.

Summary of Findings

This study provided new evidence and perceptions of exploratory SAEs to stakeholders within the agricultural education profession. While these results may not be applicable to all programs, they may provide valuable insight to the implementation and evaluation of exploratory SAE programs.

Demographic Data

The respondents offered very little variation in terms of gender (male=11, female=3), ethnicity (100% Caucasian), and years in agricultural education (6-10 years *n*=1, 11-15 years *n=2*, 16-20 years *n*=2, 20 years or more *n*= 9). However, the panel did show differences in where they live (rural *n*=4, suburban *n*=6, and urban *n*=4). When panelists were asked to share their familiarity with Explore SAE, an innovative new SAE curriculum resource, the results were varied. Panelists reported that n=9 (64.28%) were familiar with this new online tool, while n=5 (35.71%) were not. However, when asked if panelists knew someone in the profession who used Explore SAE, many did not. The results showed n=5 (35.71%) knew of someone implementing this new tool while n=9 (64.28%) did not.

Finally, panelists were asked to rank the four SAE categories based on their perception of how other agricultural education teachers promoted the concept of SAEs to

students in their program. A ranking of one indicated the most promoted and a ranking of four indicated the least promoted. Means of overall ranking were calculated and reported. A lower mean score shows a higher ranking of how the SAE area is promoted by agriculture instructors in their local programs. Panelists indicated that entrepreneurship was the most promoted with n=11 (m=0.78), followed by placement n=11 (m=1.57), research with n=8 (m=1.71), and exploratory being the least promoted with n=8 (m=2.29).

This data was collected to provide an overview of the panel of experts and to garner some basic information regarding their understanding and knowledge of SAE programs. This data suggests that the creators of Explore SAE should continue to promote their resource. Furthermore, panelists perceive the traditional SAE categories such as entrepreneurship and placement are more heavily promoted by teachers than the newer SAE areas. As a result, this may affect participation and understanding of these other SAE areas.

Objective 1: Define Exploratory SAEs

Conclusions

The purpose of this objective was to better define the exploratory SAE category. While various definitions exist and have previously been discussed, it is important for the profession to evaluate these definitions to determine if the field truly defines the area based on the specified definition. Across three rounds of data collection, panelist agreed that exploratory SAEs involve exploring careers in agriculture (*m*=3.29), projects are supervised by a teacher, professional, or other experienced person (*m*=3.36), exploratory

SAEs are conducted outside of the classroom (m=3.36), and that exploratory SAE's are related to Agriculture, Food and Natural Resources (AFNR) standards (m=3.36). As a result, we can conclude that the panelists agree that career exploration is a critical component of this SAE category. Furthermore, the panel reinforces other truths of the SAE component of the agricultural education model, such as the concept it is supervised and conducted outside the classroom (Barrick, 1991). What may be new or intriguing is the idea that this area should be closely connected with AFNR standards. Perhaps panelists see this as a direct connection to career pathways and the exploration that is the nature of this SAE category. Based on these findings, we have determined that exploratory SAEs can be defined as an SAE project that "provides students the gateway to discover career interests and other SAE opportunities in the broad field of agriculture." Furthermore, exploratory SAEs should be supervised, aligned with AFNR standards and conducted outside of the classroom.

Recommendations

According to the National FFA definition of exploratory SAEs, this area is "experiencing the 'big picture' of agriculture and its many related careers" (2014). This study shows that the experts believe this definition does hold merit. Career exploration is the basis of this category and should be an integral part of an exploratory project. Furthermore, the panelists also identify some basic factors that reinforce this category is a true SAE area. This is derived from the idea that this is a project conducted outside the classroom, is agriculturally related, and is supervised by an adult. It is recommended that these points are reinforced with this category since it has been broadly defined.

Additionally, it is recommended that these projects be related to AFNR standards moving forward. This should help students and teachers better explore and connect with the various and diverse field of agriculture.

Objective 2: Describe Exemplar Examples of Exploratory SAE projects

Conclusions

The purpose of this objective was to better understand what exploratory SAEs actually look like. Many within the profession have generalized what a project should be; however, this objective in the broader study sought to bring clarification to the projects that make up this area. Panelists provided the most diverse responses to this question (*n=45*) and also reached consensus on more items. According to the panelists across three rounds of data collection, the SAE experts agree that job shadowing a veterinarian, an artificial insemination technician, a seed salesman, at a tree nursery, at a poultry facility, at a local equipment dealership, at a local cooperative, and a dairy production facility all were best examples of exploratory SAEs with an agreement of (*m*=3.29). Furthermore, panelists also agreed that job shadowing at a local thoroughbred race track, at a local greenhouse, at an animal shelter, and observing a local agricultural professional were best examples of exploratory projects (*m*=3.21). Finally, the panel also agreed that job shadowing an agriculture teacher as the teacher conducts SAE visits is another strong example (*m*=3.36). In round three, the panelists also agreed that job shadowing at the local extension office (*m*=3.50), a student works with a laboratory technician to learn about laboratory safety and importance of sanitation in the laboratory with lab equipment (*m*=3.21), and a student works with a certified welder to experience

set-up, safety procedures, equipment, and beginning activities for various types of welding (*m*=3.29) all classified as exploratory SAEs.

Based on the data collection, panelists believe that job shadowing with an agricultural professional is a great SAE. These findings also align with the findings in the first objective by showing these projects involve career exploration, are supervised, and are diverse across the AFNR pathways. However, this may also suggest that experts within the profession may limit this category to merely job shadowing. Furthermore, many unique and different examples failed to reach consensus. Items that have been classified as examples of exploratory SAEs in the past such as attending a college career fair, interviewing an agricultural professional, short term research projects, and teaching a mini-lesson on agriculture to third graders (National FFA, 2014) all failed to reach consensus. Clearly, someone on the panel of experts felt these were exemplary examples. Therefore why did these items fail to reach consensus? Further research should be conducted to explain this phenomenon.

Recommendations

According to Wilson & Moore (2007), one of the barriers effecting the low participation in SAE is lack of familiarity to new categories. Certainly, exploratory SAEs are a newer area and need clarification. It is recommended that stakeholders within the profession develop resources to better explain newer SAE areas. These resources can include specific examples of exploratory SAEs and how to best implement them in local programs. Not only should these examples assist teachers in better implementing these programs, but should also help garner and encourage participation.

Furthermore, further research should be conducted to determine if exploratory SAEs reach beyond the scope of job shadowing. Some teacher certification programs mention career fairs, agri-science fair projects, and short demonstrations as examples of exploratory SAEs. More research should be conducted to determine if this category can help students conduct career exploration other than through job shadowing experiences.

Additionally, stakeholders in the profession should attempt to be more specific with expectations for this SAE category. Teacher education programs should encourage students to evaluate the value of utilizing exploratory SAEs in their local programs. After all, (Rawls, 1982) mentions that SAE programs are designed to be of benefit to not only the students but also local communities. Perhaps, National FFA and State FFA Staff should simply allow teachers the opportunity to grow this category as they see fit. On the other hand, task forces could be formed to help solidify these examples and help all members of the agricultural education profession determine the best examples of these projects.

Objective 3: Identify Parameters that Differentiate Exploratory SAE Projects from other SAE Categories

Conclusions

The purpose of this objective was to determine what parameters make exploratory SAEs different from other SAE categories. Clearly, career exploration heavily influences this area. Furthermore, panelists' perceptions may also see this category as more of a "gateway" or transitional SAE to other SAE categories. Across three rounds of data collection, panelists provided 26 raw responses. The SAE experts

agree that exploratory SAEs should have little to no financial investment (m=3.29), include very basic or introductory information (m=3.29), and can lead to expanded scope, investment, and/or other SAE areas (m=3.21). This suggests yet again that exploratory SAEs may be more important to SAE development and growth for a student throughout his or hers individual SAE program. However, other items that have been associated with exploratory SAEs failed to reach consensus. Items such as small scale, short term, multiple projects in one year, and basic of very introductory record keeping (National FFA, 2014, ExploreSae.com, 2014) all failed to reach consensus. Perhaps this indicates exploratory SAEs can be larger scale and expand over the course of a few months. Another interesting point involves the idea of a student does not already have an established SAE area. This failed to reach consensus, but panelists have already agreed that exploratory SAEs are more of a gateway or first step SAE. Therefore, does this mean a student can have an established SAE and also be conducting an exploratory SAE? Or is this merely a first step SAE category that can lead to others? Further research should be conducted to explain this.

Also, panelists perceive this category as a more economic option for students to be involved in SAE programs. Several studies indicate that costs of projects could be barriers (Barrick, 1991, Wilson & Moore, 2007). This new category could also help the agricultural education profession in encouraging greater participation in SAE programs (Lewis, Rayfield & Moore, 2012).

Recommendations

While little research exists on specific parameters of this SAE area, we can conclude that exploratory SAEs are designed to be beginning types of SAEs. Furthermore, this objective highlights the importance of exploratory SAEs requiring little to know investment. According to Explore SAE, a student's primary investment in an exploratory SAE is time (2014). Therefore, it is recommended that exploratory SAEs be promoted to students in agricultural education programs who may not have the financial means to complete other SAE areas. Furthermore, exploratory SAEs should be promoted for first year agricultural students to encourage participation and link them into this component of the agricultural education program more quickly. According to the panel of experts, this should encourage growth and expansion of these projects into other SAE areas and encourage more participation in SAE programs.

Additionally, teacher education programs should emphasize the use of these projects to pre-service teachers as a way to engage students into the SAE program. Perhaps state and national FFA staff could emphasize student involvement in these projects at state and national leadership conferences and events. Furthermore, these parameters may be useful to help clarify the newer SAE category. This clarification may also be well suited as a topic for professional development for secondary agricultural education teachers. If these parameters are made clearer for these teachers, perhaps this group could better implement these projects.

Objective 4: Identify Opportunities of the Implementation of Exploratory SAE Projects

Conclusions

The purpose of this objective was to help better understand what specific opportunities exist in implementing exploratory SAEs into local agricultural education programs. Previous objectives may begin to expose some of these opportunities; however, the researcher wished to have direct responses from SAE experts on this topic. According to the SAE panelists, working with agribusinesses in the community (m=3.43), more students would be involved in SAEs (M=3.29), students learn more about careers and career pathways (m=3.29), offers more career exploration (m=3.29), and students involved in the program at an earlier grade level (m=3.21) are all opportunities for the implementation of exploratory SAEs.

The panelist remained consistent with other objectives in terms of believing that exploratory SAEs help students in career exploration and provides them the opportunities to learn more about careers and career pathways. More intriguing, panelists believe these SAE projects provide opportunities to build relationships within the community, gets students involved in SAE programs sooner and more frequently. Rawls (1982) reemphasized this point in a study asking parents' view of benefits to SAE programs. By engaging students at an earlier grade level, benefits such as attitude, occupational development, and human relations can be enhanced. Following suit with increased participation, several studies indicated that new SAE categories may influence participation in these new programs (Dyer and Osborne, 1995, Lewis, Rayfield &

Moore, 2012, Steele, 1997). Panelists responses related to these items may suggest that exploratory SAEs hold the advantage to increasing participation in the SAE program.

Recommendations

According to Lewis, Rayfield, and Moore (2012), less than half (46.1%) of all agricultural education students in that study participate in SAEs. Countless other studies within the profession suggest that SAE participation is certainly and issue facing the future (Barrick, 1991, Dyer and Osborne, 1995, Steele, 1997). However, SAE experts in this study believe that opportunities exist to address these concerns in the context of exploratory SAEs. The researcher recommends that professional development be conducted for this area to better promote this newer SAE area to teachers. If experts agree it gets more students involved in SAEs sooner and in greater numbers, this should be a great advantage to promoting more SAE participation. Furthermore, exploratory SAEs nature of being basic and encouraging exploration should make this category less intimidating to first year agriculture students. In addition to professional development opportunities, teacher preparation programs in agricultural education should encourage future educators to utilize these programs. Perhaps this will help the profession make the three-circle model more balanced in the long term. Additionally, National FFA and State FFA staff should take more active approaches in promoting these programs. Wilson & Moore (2007) noted that one of the barriers of SAE participation is lack and understanding for new SAE categories. Professional development and open collaboration on how the national and state FFA organizations perceive and understand

this SAE area may be useful to discover and optimize all opportunities available with these projects.

Objective 5: Identify Barriers Limiting Implementation of Exploratory SAE Projects

Conclusions

The purpose of this objective was to identify potential barriers to implementing exploratory SAE projects. Similarly to objective four, identifying barriers could help the profession better promote this category and assist teachers and students who have difficulty utilizing this newer SAE category. Across three rounds of data collection, experts failed to reach consensus on any of the 29 raw responses they provided. Does this suggest no barriers exist to implementing these programs? While the data suggests this, further research should be conducted to more deeply evaluate the specific barriers that could be limiting exploratory SAE participation. Furthermore, barriers that exist across all SAE categories should be evaluated and considered as points of improvement. Although all of the barriers the panel provided failed to reach consensus, several items have been identified in the literature as general barriers for SAE programs. Items such as the SAE area is unclear/broadly defined, agriculture educators do not know how to assess/ and or grade SAEs, and even lack of recognition for this area have been seen in previous studies as barriers (Barrick, 1991, Wilson & Moore, 1997). Perhaps this is an indication that SAE barriers should be evaluated across the SAE program as a whole and not just based on each SAE area. Further research should be conducted to explain these phenomena.

Recommendations

Previously noted, Wilson & Moore (2007) identified several barriers to SAE implementation including limited time, number of students in the program, lack of summer employment, lack of support from school administration and community, complicatedness of recordkeeping, limited availability of resources, and lack of familiarity with newer SAE categories. Many of these barriers appeared as raw responses in this study. Perhaps this suggests that these barriers may not be just specific to exploratory SAEs, but rather the SAE program as a whole. It is recommended that further research be conducted to help determine how to address these barriers within the profession. Furthermore, agricultural education stakeholders should continue to discuss and develop proactive means to assist in overcoming these barriers. Finally, teacher education programs should focus on preparing future educators to encounter these barriers and how to address them in their specific programs. Retallick (2010), Roberts & Deyer (2004), and Young & Edwards (2005) all believe that teachers should engage in professional development regarding SAE programs. As a result, universities, state and national agricultural education organizations and agricultural education teacher organizations should place special emphasis on conducting professional development opportunities related to SAEs for teachers within the agricultural education profession.

Objective 6: Determine whether Exploratory SAEs are Degree and/or Award Worthy based on the Current state of the Category based on National FFA Parameters

Conclusions

The purpose of this final objective was to address the very applicable outcomes of exploratory SAE projects. In agricultural education, the SAE category has opportunities for students to earn awards and degrees based on their SAE programs. Since exploratory SAE areas are a newer category and the panel of experts has already determined their nature to be basic or introductory, it was critical to evaluate whether these programs were award and/or degree worthy. According to the 14 SAE experts, (*n*=8) believe that exploratory SAEs are award and degree worthy while (*n*=6) believe they are not. Perhaps the more intriguing finding of this objective comes from the open ended responses. Despite more panelists believing this category is award and/or degree worthy (53.33%), they failed to reach agreement on any of the open ended statements. On the contrary, those who believed they are not award and or degree worthy (42.86%) reached consensus on two items including that exploratory SAEs were merely a "gateway" or first step SAE (*m*=3.67) and that the student has not invested enough time in the project (*m*=3.33). Perhaps this shows that panelists who do not believe exploratory SAEs are degree and award worthy are more certain as to why. These same panelists may also feel more strongly about their perception. Additionally, these perceptions better support the previous objectives. That leaves the discussion as to whether stakeholders in the profession should consider the notion of creating awards and

recognition for this unique SAE area. The literature suggests that SAE is the most challenging component of the agricultural education model (Dyer & Osborne, 1995, Robinson & Haynes, 2011). Perhaps adding more award and degree recognition would only complicate the issue of SAE participation and implementation.

Recommendations

The SAE awards program is heavily driven by Proficiency awards and FFA degrees. As a result, more than half of panelists do believe that exploratory SAEs area award and degree worthy. It is recommended that stakeholders in the profession discuss forms of recognition for these projects. Nevertheless, the data collected in this study distinctly differentiates this area from the other more traditional categories. Therefore, careful consideration should be taken when developing awards and recognition for this area. Furthermore, these projects are recommended for first year agricultural students. Perhaps this award area should be treated similarly to Career Development Events (CDEs) such as Creed Speaking or middle school program awards. Finally, teacher preparation programs should encourage future educators to develop innovative approaches to awarding these projects in their local programs. This may also assist in the promotion and participation of this area.

Recommendations for Future Research

This study provides ample opportunities for future research within the profession. Not only could this study be replicated, but this also could be used to determine perceptions and understanding of the other SAE categories. Additionally, specific factors of this study could be more closely evaluated. Factors such as exemplary examples,

barriers, and whether this SAE area is award and/or degree worthy should be investigated further and evaluated to better serve the profession.

Furthermore, a study asking pre-service teachers their perceptions and understanding of exploratory SAEs may serve teacher education programs to better serve and promote this SAE area. Similarly, studies evaluating programs that offer exploratory SAEs may expose new insight. Do programs based in rural or urban settings have different approaches? Are all students required to have an exploratory SAE? Further research should be conducted to answer these questions.

Finally, members of the agricultural education profession should consider researching and developing resources to better promote and implement exploratory SAE programs. Clearly, panelists perceive them as useful projects in the total agriculture program. They also agree that exploratory SAEs engage more students sooner into SAE programs. This is a great opportunity to address the issues facing the SAE component of the agricultural education model into the future. Resources created specifically for secondary agriculture instructors may help provide clarity to teachers and students alike in the advantages and opportunities of exploring new SAE areas. Qualitative approaches with teachers and stakeholders in the profession could expose more ideas and perceptions of exploratory SAEs. This study will help to further determine how exploratory SAEs will best suit the profession and the benefits it could provide to revitalize the SAE component of the total agricultural education program.

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APPENDIX A

ROUND 1 INSTRUMENT

AGRICULTURE & LIFE SCIENCES
TEXAS A&M UNIVERSITY

Default Question Block

You are invited to take part in a research study being conducted by Dr. John Rayfield and Clayton Zwilling, Graduate Student, from the Department of Agricultural Leadership, Education, and Communications at Texas A&M University.

The purpose of the study is to help define the meaning of the exploratory category of the Supervised Agricultural Experience (SAE) component of the agricultural education model, and identify ways to better advise these experiences within the profession. You have been specifically identified for this study because you offer expertise in the field of SAE. You, and people like you, are the only place we can obtain this data. The online questionnaire will last no more that 10 minutes. If you would like to learn more about this study, please click the following link:

Information sheet

We appreciate your time in helping us with this study. You may contact Dr. John Rayfield to tell him about a concern or complaint about this research at 979-862-3707 or jrayfield@tamu.edu or myself, Clayton Zwilling, at 979-845-2250 or clayton.zwilling@ag.tamu.edu

Do you agree to participate in this questionnaire?

- Yes
- No

Which of these photos best represents Exploratory SAE?

In your own words, please define exploratory SAE.

Please list the five best examples of exploratory SAE projects.

Example 1	
Example 2	
Example 3	
Example 4	
Example 5	

Please list five parameters that differentiate exploratory SAE from the other categories.

Parameter 1

Parameter 2

Parameter 3

Parameter 4

Parameter 5

Rank the following types of SAEs based on your perception of how other agricultural education teachers promote the concept of SAE's to students in their program; with (1) being the most promoted and (4) being the least promoted. (Click and Drag answers to place them in the desired order.)

Exploratory

Research

Entrepreneurship

Placement

Please describe five potential opportunities for implementing exploratory SAEs in your community.

Opportunity 1

Opportunity 2

Opportunity 3

Opportunity 4

Opportunity 5

Please list five potential barriers to implementing exploratory SAE.

Barrier 1

Barrier 2

Barrier 3

Barrier 4

Barrier 5

In your opinion, are exploratory SAE projects as they exist today considered "award worthy"? Should they qualify students to receive Proficiency Awards, Star Candidate, Degree recipient, etc.? Why or Why not?

What is your gender?

- Male
- Female

I would describe where I live as...

- Rural (<2,500)
- Suburban (2,501- 50,000)
- Urban (>50,000)

What is your ethnicity?

- Caucasian
- African-American
- Asian
- Hispanic
- More than one

How many years of agricultural education teaching experience do you have?

- 0-5
- 6-10
- 11-15
- 16-20
- 20+

Are you familiar with the "Explore SAE" or "SAE Builder" website?

- Yes
- No

Have you, or someone you know in the profession, used the "Explore SAE" or "SAE Builder" website with secondary agricultural education students?

- Yes
- No

Thank you for completing this questionnaire!

APPENDIX B

ROUND 2 INSTRUMENT

Default Question Block

You are invited to take part in a research study being conducted by Dr. John Rayfield and Clayton Zwilling, Graduate Student, from the Department of Agricultural Leadership, Education, and Communications at Texas A&M University.

The purpose of the study is to help define the meaning of the exploratory category of the Supervised Agricultural Experience (SAE) component of the agricultural education model, and identify ways to better advise these experiences within the profession. You have been specifically identified for this study because you offer expertise in the field of SAE. You, and people like you, are the only place we can obtain this data. The online questionnaire will last no more than 15 minutes. If you would like to learn more about this study, please click the following link:

Information sheet

We appreciate your time in helping us with this study. You may contact Dr. John Rayfield to tell him about a concern or complaint about this research at 979-862-3707 or jrayfield@tamu.edu or myself, Clayton Zwilling, by email at clayton.zwilling@ag.tamu.edu

Do you agree to participate in the study?

Yes

No

Based on your responses from Round 1, please rank your level of agreement with the following statements as they relate to ***how you would define Exploratory SAEs.***

	Strongly Disagree	Disagree	Agree	Strongly Agree
Related to AFNR areas	O	O	O	O
Supervised by a teacher, professional,				

or other experienced person	O	O	O	O
Conducted outside the classroom	O	O	O	O
Multiple projects in a year	O	O	O	O
Conducted in the classroom	O	O	O	O
Exploring careers in agriculture	O	O	O	O
Conducted by younger students (middle school or freshmen)	O	O	O	O
Short term projects	O	O	O	O

Based on your responses from Round 1, please rank your level of agreement with the following statements as they relate to the **best examples of Exploratory SAEs.**

	Strongly Disagree	Disagree	Agree	Strongly Agree
Job shadowing an Artificial Insemintation technician	O	O	O	O
Job shadowing at a greenhouse	O	O	O	O
Teaching a mini-lesson on agriculture to third graders	O	O	O	O
Job shadowing at the local extension office	O	O	O	O
Job shadowing with an insurance agent	O	O	O	O
Develop SAE plans and goals	O	O	O	O
Working in school	O	O	O	O

agricultural facilities				
Job shadowing at a local equipment dealership	O	O	O	O
Computer simulations in agricultural equipment and maintenance	O	O	O	O
Job shadowing at the local Chamber of Commerce	O	O	O	O
Job shadowing at a research station	O	O	O	O
School and/or community gardens	O	O	O	O
Volunteering with agricultural literacy programs	O	O	O	O
Job shadowing at a local thoroughbred race track	O	O	O	O
Job shadowing a veterinarian	O	O	O	O
Student complies a scrapbook about a specific agricultural career	O	O	O	O
Internships	O	O	O	O
Student defines their career aspirations	O	O	O	O
Observing a local agriculture professional	O	O	O	O
A younger FFA member works with an older FFA member on their SAE	O	O	O	O
Job shadowing at a tree nursery	O	O	O	O

Volunteering at the humane society	O	O	O	O
Growing a flat of plants in the greenhouse	O	O	O	O
Job shadowing an agriculture teacher as the teacher conducts SAE visits	O	O	O	O
Individual market animal projects	O	O	O	O
Showing livestock	O	O	O	O
Under the advisement of an agricultural technician, a student is allowed an introductory session on a front end loader computer simulator	O	O	O	O
Starting a new business	O	O	O	O
Agri-Science Fair projects	O	O	O	O
Writing a paper on agricultural careers	O	O	O	O
Observing an agriculture lender	O	O	O	O
Volunteering with the local foodbank	O	O	O	O
Job shadowing at a dairy production facility	O	O	O	O
Job shadowing at a poultry facility	O	O	O	O
Interviewing an agriculture professional	O	O	O	O
Job shadowing a seed salesman	O	O	O	O

Research Projects	O	O	O	O
Attend a college Career Day	O	O	O	O
Job shadowing at a local cooperative	O	O	O	O
Student reflects on what agriculture career best suits their personality	O	O	O	O
Job shadowing at an animal shelter	O	O	O	O
A student works with a laboratory technician to learn about laboratory safety and importance of sanitation in the laboratory with lab equipment.	O	O	O	O
Agricultural field trips	O	O	O	O
Volunteering at an animal shelter	O	O	O	O
A student works with a certified welder to experience set up, safety procedures and equipment, and beginning activities for various types of welding.	O	O	O	O

Based on your first round responses, please rank your level of agreement with the following statements as they relate to **potential opportunities for implementing Exploratory SAE's into your local agricultural education programs.**

	Strongly Disagree	Disagree	Agree	Strongly Agree
Work with				

agribusinesses in the community	O	O	O	O
More career exploration	O	O	O	O
Students work with computer simulations and gain valuable skill development	O	O	O	O
Gets students involved at an earlier grade level	O	O	O	O
Students improve science and workplace skills	O	O	O	O
Allows students to learn more about careers and career pathways	O	O	O	O
Offers career training to students	O	O	O	O
Develops mentorship from older students	O	O	O	O
Helps non-traditional students gain important career development skills	O	O	O	O
More community service opportunities	O	O	O	O
More students will be involved in SAEs	O	O	O	O

Based on your first round responses, please rank your level of agreement with the following statements as they relate to **parameters that differentiate the Exploratory SAE category from the other categories.**

	Strongly Disagree	Disagree	Agree	Strongly Agree

Explores career ideas, does not conduct projects	O	O	O	O
Only appropriate for younger students	O	O	O	O
Easily replicated	O	O	O	O
At lease one other party to complete or supervise	O	O	O	O
Basic or introductory record keeping	O	O	O	O
Varied and Diverse	O	O	O	O
Very basic or introductory information	O	O	O	O
Does not follow a research hypothesis	O	O	O	O
Requires more reflection	O	O	O	O
Short term	O	O	O	O
Minimal supervision	O	O	O	O
Small scale	O	O	O	O
Tailored to any situation	O	O	O	O
Multiple projects in a year	O	O	O	O
No true skill or competency development	O	O	O	O
Projects change frequently	O	O	O	O
Very broad	O	O	O	O
Occurs in the agricultural classroom	O	O	O	O
Skills or competencies are developed	O	O	O	O

Little to no financial investment	O	O	O	O
Can lead to expanded scope, investment, and/or other SAE areas	O	O	O	O
No student responsibility and/or risk	O	O	O	O
No employment contract	O	O	O	O
Non-ownership	O	O	O	O
Student does not already have an established SAE area of interest	O	O	O	O
Harder to earn FFA degrees and awards	O	O	O	O

Based on your first round responses, please rank your level of agreement with the following statements as they **relate to potential barriers of implementing Exploratory SAEs into your local agricultural education program.**

	Strongly Disagree	Disagree	Agree	Strongly Agree
Safety Concerns	O	O	O	O
Student absences and missing limited number of school days	O	O	O	O
Students will not advance to other SAE levels	O	O	O	O
Age of students	O	O	O	O
Accountability of SAE project funds	O	O	O	O
Lack of teacher interest	O	O	O	O

No criterion for SAE area	O	O	O	O
Negative attitudes of teachers and educators towards Exploratory SAEs	O	O	O	O
Time	O	O	O	O
Lack of recognition of the Exploratory SAE area	O	O	O	O
More work/effort for agriculture teacher than standard SAEs	O	O	O	O
Not a true SAE area	O	O	O	O
Perceived as "busy work"	O	O	O	O
Competition with other high school and student events	O	O	O	O
SAE area unclear/broadly defined	O	O	O	O
Liability	O	O	O	O
Limited philosophy that SAE is just about the money and the experience	O	O	O	O
Harder to supervise and manage for agriculture teacher	O	O	O	O
Agriculture educators do not know how to assess and/or grade Exploratory SAEs	O	O	O	O
Limited opportunities in the community	O	O	O	O
Students recognized by money and scope, not experience	O	O	O	O
Lack of				

administrative support	O	O	O	O
Driven by an FFA award system that has no educational merit	O	O	O	O
Transportation of students	O	O	O	O
Cost	O	O	O	O
Not FFA Degree or Award worthy	O	O	O	O
Finding quality mentors/supervisors	O	O	O	O
Student initiative/motivation	O	O	O	O
Need to target troubled youth	O	O	O	O

As the SAE area is described today, are Exploratory SAE's award or degree worthy?

Yes

No

Based on your selection of "Yes, Exploratory SAEs are degree or award worthy," please rank your level of agreement to the following statements as they relate to why Exploratory SAEs ARE degree or award worthy.

	Strongly Disagree	Disagree	Agree	Strongly Agree
Only if the project is "quality"	O	O	O	O
Only when transformed into a broader project	O	O	O	O
Only for local degrees and awards	O	O	O	O

Only for degree recognition, not FFA award programs	O	O	O	O
Exploratory SAEs deserve stand alone recognition for FFA degrees and award programs	O	O	O	O
Exploratory SAEs should be heavily promoted to develop award areas and degree satisfaction	O	O	O	O

Based on your selection of "No, Exploratory SAEs are not degree or award worthy," please rank your level of agreement to the following statements as they relate to why Exploratory SAEs are NOT degree or award worthy.

	Strongly Disagree	Disagree	Agree	Strongly Agree
Student has not invested enough time in the project	O	O	O	O
Student has not invested enough money in the project	O	O	O	O
Student does not have enough scope to make the project competitive	O	O	O	O
Not an SAE area	O	O	O	O
Only a "gateway" or first step SAE.	O	O	O	O

What is your gender?

Male

Female

What is your ethnicity?

Caucasian

African-American

Asian

Hispanic

More than one

How many years have you been involved in agricultural education?

0-5

6-10

11-15

16-20

20+

Thank you for completing our questionnaire! Your responses are important to us and we appreciate your time helping us with this study!

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APPENDIX C

ROUND 3 INSTRUMENT

Default Question Block

You are invited to take part in a research study being conducted by Dr. John Rayfield and Clayton Zwilling, Graduate Student, from the Department of Agricultural Leadership, Education, and Communications at Texas A&M University.

The purpose of the study is to help define the meaning of the exploratory category of the Supervised Agricultural Experience (SAE) component of the agricultural education model, and identify ways to better advise these experiences within the profession. You have been specifically identified for this study because you offer expertise in the field of SAE. You, and people like you, are the only place we can obtain this data. The online questionnaire will last no more than 15 minutes. If you would like to learn more about this study, please click the following link:

Information sheet

We appreciate your time in helping us with this study. You may contact Dr. John Rayfield to tell him about a concern or complaint about this research at 979-862-3707 or jrayfield@tamu.edu or myself, Clayton Zwilling, by email at clayton.zwilling@ag.tamu.edu

Do you agree to participate in the study?

Yes

No

Based on your responses from Rounds 1 and 2, please rank your level of agreement with the following statements as they relate to ***how you would define Exploratory SAEs.***

	Strongly Disagree	Disagree	Agree	Strongly Agree
Conducted outside the classroom	O	O	O	O
Conducted by				

younger students (middle school or freshmen)	O	O	O	O
Related to AFNR areas	O	O	O	O
Conducted in the classroom	O	O	O	O
Short term projects	O	O	O	O
Multiple projects in a year	O	O	O	O

Based on your responses from Rounds 1 and 2, please rank your level of agreement with the following statements as they relate to the **best examples of Exploratory SAEs.**

	Strongly Disagree	Disagree	Agree	Strongly Agree
Growing a flat of plants in the greenhouse	O	O	O	O
Internships	O	O	O	O
Research Projects	O	O	O	O
Interviewing an agriculture professional	O	O	O	O
Job shadowing at the local extension office	O	O	O	O
Working in school agricultural facilities	O	O	O	O
Volunteering at the humane society	O	O	O	O
Volunteering with the local foodbank	O	O	O	O
Agricultural field trips	O	O	O	O
Computer simulations in agricultural equipment and	O	O	O	O

maintenance				
School and/or community gardens	O	O	O	O
Student complies a scrapbook about a specific agricultural career	O	O	O	O
Teaching a mini-lesson on agriculture to third graders	O	O	O	O
Individual market animal projects	O	O	O	O
Student reflects on what agriculture career best suits their personality	O	O	O	O
Agri-Science Fair projects	O	O	O	O
Showing livestock	O	O	O	O
A student works with a laboratory technician to learn about laboratory safety and importance of sanitation in the laboratory with lab equipment.	O	O	O	O
Develop SAE plans and goals	O	O	O	O
Student defines their career aspirations	O	O	O	O
Job shadowing at a research station	O	O	O	O
Job shadowing with an insurance agent	O	O	O	O
Under the advisement of an agricultural technician, a student is allowed an	O	O	O	O

introductory session on a front end loader computer simulator				
Volunteering with agricultural literacy programs	O	O	O	O
Writing a paper on agricultural careers	O	O	O	O
A student works with a certified welder to experience set up, safety procedures and equipment, and beginning activities for various types of welding.	O	O	O	O
Attend a college Career Day	O	O	O	O
Volunteering at an animal shelter	O	O	O	O
A younger FFA member works with an older FFA member on their SAE	O	O	O	O
Job shadowing at the local Chamber of Commerce	O	O	O	O

Based on your responses from Rounds 1 and 2, please rank your level of agreement with the following statements as they relate to **potential opportunities for implementing Exploratory SAE's into your local agricultural education programs.**

	Strongly Disagree	Disagree	Agree	Strongly Agree
Offers career training to students	O	O	O	O
More community service opportunities	O	O	O	O
Work with agribusinesses in the	O	O	O	O

community				
Helps non-traditional students gain important career development skills	O	O	O	O
Students improve science and workplace skills	O	O	O	O
Develops mentorship from older students	O	O	O	O
Students work with computer simulations and gain valuable skill development	O	O	O	O

Based on your responses from Rounds 1 and 2, please rank your level of agreement with the following statements as they relate to **parameters that differentiate the Exploratory SAE category from the other categories.**

	Strongly Disagree	Disagree	Agree	Strongly Agree
Harder to earn FFA degrees and awards	O	O	O	O
Does not follow a research hypothesis	O	O	O	O
Varied and Diverse	O	O	O	O
Explores career ideas, does not conduct projects	O	O	O	O
No student responsibility and/or risk	O	O	O	O
Skills or competencies are developed	O	O	O	O
Requires more reflection	O	O	O	O
Short term	O	O	O	O

Easily replicated	O	O	O	O
Multiple projects in a year	O	O	O	O
No employment contract	O	O	O	O
Minimal supervision	O	O	O	O
Non-ownership	O	O	O	O
Projects change frequently	O	O	O	O
Basic or introductory record keeping	O	O	O	O
Occurs in the agricultural classroom	O	O	O	O
Small scale	O	O	O	O
No true skill or competency development	O	O	O	O
Student does not already have an established SAE area of interest	O	O	O	O
At lease one other party to complete or supervise	O	O	O	O
Very broad	O	O	O	O
Only appropriate for younger students	O	O	O	O
Tailored to any situation	O	O	O	O

Based on your responses from Rounds 1 and 2, please rank your level of agreement with the following statements as they **relate to potential barriers of implementing Exploratory SAEs into your local agricultural education program.**

	Strongly Disagree	Disagree	Agree	Strongly Agree

Student initiative/motivation	O	O	O	O
Lack of recognition of the Exploratory SAE area	O	O	O	O
Perceived as "busy work"	O	O	O	O
Lack of administrative support	O	O	O	O
No criterion for SAE area	O	O	O	O
Lack of teacher interest	O	O	O	O
Limited opportunities in the community	O	O	O	O
Safety Concerns	O	O	O	O
SAE area unclear/broadly defined	O	O	O	O
Agriculture educators do not know how to assess and/or grade Exploratory SAEs	O	O	O	O
Driven by an FFA award system that has no educational merit	O	O	O	O
Transportation of students	O	O	O	O
Students recognized by money and scope, not experience	O	O	O	O
Finding quality mentors/supervisors	O	O	O	O
Students will not advance to other SAE levels	O	O	O	O
Liability	O	O	O	O

Negative attitudes of teachers and educators towards Exploratory SAEs	O	O	O	O
Limited philosophy that SAE is just about the money and the experience	O	O	O	O
Age of students	O	O	O	O
Competition with other high school and student events	O	O	O	O
Harder to supervise and manage for agriculture teacher	O	O	O	O
Student absences and missing limited number of school days	O	O	O	O
Time	O	O	O	O
Not FFA Degree or Award worthy	O	O	O	O

As the SAE area is described today, are Exploratory SAE's award or degree worthy?

Yes

No

Based on your selection of "Yes, Exploratory SAEs are degree or award worthy," please rank your level of agreement to the following statements as they relate to why Exploratory SAEs ARE degree or award worthy.

	Strongly Disagree	Disagree	Agree	Strongly Agree
Only if the project is "quality"	O	O	O	O
Only when transformed into a	O	O	O	O

broader project				
Only for local degrees and awards	O	O	O	O
Exploratory SAEs deserve stand alone recognition for FFA degrees and award programs	O	O	O	O
Exploratory SAEs should be heavily promoted to develop award areas and degree satisfaction	O	O	O	O

Based on your selection of "No, Exploratory SAEs are not degree or award worthy," please rank your level of agreement to the following statements as they relate to why Exploratory SAEs are NOT degree or award worthy.

	Strongly Disagree	Disagree	Agree	Strongly Agree
Student has not invested enough money in the project	O	O	O	O
Student does not have enough scope to make the project competitive	O	O	O	O
Not an SAE area	O	O	O	O

What is your gender?

Male

Female

What is your ethnicity?

Caucasian

African-American

Asian

Hispanic

More than one

How many years have you been involved in agricultural education?

0-5

6-10

11-15

16-20

20+

Thank you for completing our questionnaire! Your responses are important to us and we appreciate your time helping us with this study!

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APPENDIX D

IRB APPROVAL LETTER

DIVISION OF RESEARCH

Research Compliance and Biosafety

TEXAS A&M UNIVERSITY

DATE: October 28, 2014

MEMORANDUM

TO: John Rayfield
ALRSRCH - Agrilife Research - Ag Leadership, Education & Communication

FROM: Dr. James Fluckey
Chair
Institutional Review Board

SUBJECT: Initial Review Submission - Approval

Study Number:	IRB2014-0590
Title:	Discovering Opportunities: Evaluating Exploratory Supervised Agricultural Experience's Role in the Agriculture Education Program
Review Type:	Expedite
Approval Date:	10/28/2014
Continuing Review Due:	09/15/2015
Expiration Date:	10/15/2015
Documents Reviewed and Approved:	???Discovering Opportunities: Evaluating Exploratory Supervised Agricultural Experience???s Role in the Agricultural Education Program.??? (English) (Version 2.1) Recruitment Letter (Version 1.0) Qualtrics Survey Software (Version 1.0) Thesis Proposal (Version 1.0)

Document of Consent: Waiver approved under 45 CFR 46.117 (c) 1 or 2/ 21 CFR 56.109 (c)1

This research project has been approved. As principal investigator, you assume the following responsibilities:

1. **Continuing Review:** The protocol must be renewed by the expiration date in order to continue with the research project. A Continuing Review application along with required documents must be submitted by the continuing review deadline. Failure to do so may result in processing delays, study termination, and/or loss of funding.
2. **Completion Report:** Upon completion of the research project (including data analysis and final written papers), a Completion Report must be submitted to the IRB.

750 Agronomy Road, Suite 2701
1186 TAMU
College Station, TX 77843-1186
Tel. 979.458.1467 Fax. 979.862.3176
http://rcb.tamu.edu

APPENDIX E

ROUND 1 RAW DATA RESPONSES

In your own words, please define exploratory SAE:

Exploring Careers in Agriculture
Younger students (Middle or freshman)
Short Period of Time/Short Term

Please list the five best examples of exploratory SAE:

Job Shadowing various careers related to AFNR
- -Veterinarian
- - AI Technician
- -Seed Salesman
- - Local thoroughbred race track
- - Greenhouse
- -Tree Nursery
- -Animal Shelter
- - Poultry Facilities
- -Extension Service
- -Research stations
- -Equipment Dealer
- -Local Cooperative
- -Chamber of Commerce
- -Dairy production
- -Insurance agent

Observing agricultural professionals
- -Ag lender

Agri-Science Fair Projects
Research Projects
Working in school facilities
Working with Agriculture literacy programs
Showing Livestock (small scale 4-6)
Develop SAE goals and plan
Compiling a scrapbook based on agricultural careers
Writing a paper on agricultural careers
Agricultural Field Trips.
Community Service
- -Animal Shelter
- -Humane Society
- -Ag In the Classroom
- - Food banks

Internships

School/Community Garden
Growing a flat of plants in the greenhouse
A student, under the advisement of an agricultural technician, is allowed an introductory session on a front end loader computer simulator
Interviewing an agriculturalist about their career
A student works with a certified welder to experience set up, safety procedures and equipment, and beginning activities for any style/type of welding
Conducts a personal reflection on which agricultural career best suits student's personality
Computer Simulations in agricultural equipment and maintenance

Please describe five potential opportunities for implementing exploratory SAE's

Work with agribusinesses in the community
Develop mentorship with older students
More Students involved in SAE
Helps non-traditional students gain important career development skills
Offers Career training to students
Allows students to learn more career paths and pathways
Gets students involved at an earlier level
More career exploration
More community service opportunities
Students improve science and workplace skills
Computer Simulations/Skill development

Please List five parameters that differentiate exploratory from the other categories:

Multiple Projects in a year
Changes Frequently
Short term
Small Scale
Student does not have an established SAE are of interest
Little to No financial investment
Requires more reflection
Non-ownership
No true skill/competency development
Skill or competency development
Does not follow research of hypothesis
Very basic or introductory information
No responsibility/risk
Basic record keeping

Very broad
Tailored to any situation
Harder to earn degrees
Easily replicated
Can lead to expanded scope and investment (other SAE areas)
Only appropriate for younger students
Can happen in the agricultural classroom
Varied and diverse
Mainly exploring ideas, not conducting projects
Minimal supervision
At least one other party to complete (Supervision)
No employment contract

Please list five potential barriers to implementing exploratory SAEs:
Transportation of Student
Student Initiative/Motivation
Liability
SAE Area Unclear/Broadly defined
Not an SAE area
Time
Costs
Finding quality mentors
More work/effort for teacher than standard SAEs
Negative attitudes of teachers towards exploratory SAEs
Teacher interest
Accountability of project funds
Limited opportunities in community
Perceived as busy work
Harder to supervise/manage for teacher
Safety Concerns
Not Degree/Award worthy
No criterion
Students will not advance to other SAE levels
Age of students
Limited thinking that SAE is always about the money and the experience
Lack of recognition of Exploratory SAE area
Student absences/missing days
Driven by an FFA award system that has no educational merit

Competition with other school/student events
Lack of administrative support
Students recognized by money/scope, not experience
Teachers don't know how to assess/grade
Need to target troubled youth

Are Exploratory SAEs Award Worthy?

Yes

- If project is "quality"
- Only when transformed into a broader project
- Deserve Stand Alone recognition
- Only for local awards and degrees
- Only for State and American Degrees
- And should be more heavily promoted to develop award areas for these excellent projects.

No

-Student is not invested enough in project or program
- Not enough money/scope to be competitive
- Not enough time
-Not an SAE area, they are for scouts
- Only a "gateway" or first step SAE.
-Too small scale

Image Selection

Cattle-1
Research- 2
Mentor- 10
Farm Store- 1

Rank the following categories:

1. Entrepreneurship- 11, 2, 1
2. Placement- 3, 11, 0, 0
3. Exploratory- 0, 0, 7, 7
4. Research- 0, 1, 6, 7

Are you familiar with SAE Builder or Explore SAE?

Yes- 9
No - 5

Have you, or someone you know used, SAE Builder or Explore SAE?
Yes-5
No- 9

APPENDIX F

RECRUITMENT EMAIL

From: Clayton Zwilling
TO:
Cc: John Rayfield
Subject: Exploratory SAE Expertise Needed!
Good Afternoon!

You are invited to take part in a research study being conducted by Dr. John Rayfield and Clayton Zwilling, Graduate Student, from the Department of Agricultural Leadership, Education, and Communications at Texas A&M University.

The purpose of the study is to help define the meaning of the exploratory category of the Supervised Agricultural Experience (SAE) component of the agricultural education model, and identify ways to better advise these experiences within the profession. You have been specifically identified for this study because you offer expertise in the field of SAE. This study will be a conducted in three-rounds utilizing online questionnaires. You, and people like you, are the only place we can obtain this data; therefore your responses and participation in this study are extremely important to us.
You will be receiving the first round instrument on Wednesday, November 12th, 2014. This questionnaire should take no longer than 10 minutes to complete.

Again, we appreciate your time and participation in helping us with this study. You may contact Dr. John Rayfield to tell him about a concern or complaint about this research at 979-862-3707 or jrayfield@tamu.edu or myself, Clayton Zwilling, at 979-845-2250 or clayton.zwilling@ag.tamu.edu.

Regards,

Clayton R. Zwilling
Graduate Assistant
Agricultural Leadership, Education, & Communications
233 Agriculture and Life Sciences Building
College Station, TX 77843-2116

AGRICULTURAL LEADERSHIP EDUCATION & COMMUNICATIONS
TEXAS A&M UNIVERSITY

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